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Eleventh International Veterinary Congress.

Important Discussions.

The Official Banquet.

(*Continued from page 742.*)

At the commencement of the continued proceedings at the Eleventh International Veterinary Congress, Central Hall, Westminster, on Wednesday, August 6th, 1930, the following telegram from the Prince of Wales was read :—

" I thank the delegates and members of the International Veterinary Congress for their greetings, which I warmly reciprocate, and I hope that all success will attend their present deliberations."

His Royal Highness's message was received with loud cheers.

Vaccination Against Tuberculosis.

Tuberculosis (vaccination) in regard to cattle and the B.C.G. (Calmette-Guérin) vaccine was the subject discussed at the morning general conference. Sir Arnold Theiler presided.

Dr. ALBERTO ASCOLI, of the Veterinary Institute, Milan, dealing with the work of two institutes in Milan, said that the innocuity of the subcutaneous injection of B.C.G. against bovine tuberculosis was shown by the following facts :—3,819 bovines had been inoculated once, 7,574 twice, 714 three times, 199 four times, and 32 five times, and in no case had there developed at the site of inoculation a reaction lesion giving rise to tuberculous infection. The mistaken view that the Calmette-Guérin vaccine was capable of causing tuberculosis was based on the fact that at the place where the B.C.G. bacilli were introduced there developed a regressive tubercle. The fact that the B.C.G. was an organism capable of producing a tubercle was put forward as evidence that it could produce tuberculosis. His experiments confirmed that inoculation experiments up to the fortieth passage of a virulent bovine strain on media containing bile revealed a gradual attenuation, as was shown by progressive limitation of the tuberculous infection. The fixation abscess which resulted from the injection of tuberculosis vaccine acted as a protection against diseases associated with breeding.

Dr. W. V. GUÉRIN (Pasteur Institute, Paris) said it was a mistake to think that active vaccination against tuberculosis was sufficient of itself to ensure protection against the disease. The pathogenesis of tuberculosis made it essential to impose initial sanitary precautions both in bovines and in the human subject. As it was only the presence of living tubercle bacilli in the body which produced the resistance, and it was the first organism to gain access which left its mark, the first invader must be a harmless but efficacious bacillus of the B.C.G. type. The prevention of tuberculosis in bovines, therefore, comprised first rigid isolation after birth and feeding with milk free from bacilli, and secondly proper vaccination with B.C.G., which gave specific resistance against natural infection.

Dr. E. A. WATSON (Animal Diseases Research Institute, Hull, Quebec) said that scientific endeavour had been directed to the problem of tuberculosis as a preventable disease for half a century and newer knowledge was being continually handed down. The guiding principle was to dry up the sources of infection or render them harmless. Many important deficiencies in bacteriological and immunological knowledge of the tuberculous infection had yet to be filled, and finality in the development and expression of ideas concerning the biological characteristics and pathogenic attributes of the tubercle bacillus seemed far distant. Attack and pursuit were being made in different ways and along different lines. In Canada and the United States there were comprehensive campaigns for the eradication of the disease, destroying the sources of infection, building up clean herds, and establishing immense areas free from tuberculosis. In Europe the tendency seemed to be towards the indirect methods of prevention by separation, and more recently by vaccination, as reintroduced by Professors Calmette and Guérin. Their study of B.C.G. vaccination had led them to substantiate the claims made for it as an efficient means of protection against tuberculosis.

Immunization against Blackleg.

The afternoon was devoted to sectional meetings, at one of which Mr. T. J. Bosworth (Assistant Director, Institute of Animal Pathology, Cambridge) and Dr. P. Rinjard, of Alfort, dealt with Blackleg (vaccination).

Mr. BOSWORTH said that very reliable methods of immunizing animals against blackleg were now available. The value of aggressin was generally recognised and it had proved itself superior to the vaccines previously employed on account of its absolute safety and high immunizing value. Artificial aggressin was to be preferred to the natural product, as it was at least as potent and was much less troublesome and costly to prepare. The introduction of formolized vaccine by Leclainche and Vallée constituted a further advance in blackleg immunization. This vaccine had been used for the protection of animals in infected districts and had been found to be safe and efficient.

Scientific Feeding of Animals.

At another sectional meeting, Professor DECHAMBRE, of Alfort (Seine), and Professor E. LETARD, of Lyons, reporting on " The Scientific Feeding of Animals," recorded that the practice of the feeding of domesticated animals was susceptible of many improvements which arose out of scientific progress. It seemed that only the laboratory, by its methods of biological analysis, could add new knowledge on the subject. To the doctrine of thermo-dynamic

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equivalents and of nitrogenous minimum should now be added new ideas concerning the quality of the nitrogenous minimum (acid amines), the minima of the chemical substances other than the proteins, the needs of the organism in mineral substances, the quantitatively unmeasured food (vitamins), and alimentary equilibrium. These ideas had to be applied to practice. It was desirable that the methods of calculation of the value of foodstuffs should be standardised and the same unit uniformly accepted. Rational feeding on a scientific basis was one of the essential factors for the health of domesticated animals and the veterinary surgeon in his dual capacity of doctor and zootechnician must not remain indifferent to the progress which could be achieved.

Dr. G. H. Hart (University of California) said that animals depending on natural vegetation on the range were frequently not getting all of the six groups of essentials of an adequate diet in sufficient quantity. The groups of essentials were :—Carbohydrates, fats, proteins, vitamins, minerals, water. The carbohydrates and fats were usually considered together as the sources of energy. Vitamins were giving evidence that they might have sufficient bearing to alter farm practice in the harvesting of roughages for livestock. Evidence was accumulating that attention must be given to the ratio of certain mineral elements to others, particularly calcium and phosphorus, for optimum nutrition.

Other subjects considered during the afternoon were as follows :—

Standardisation of Biological Products (sera, vaccine and diagnostic agents)—*Reporters* : V. A. Eichhorn (Lederle Antitoxin Laboratories, New York), Dr. G. Flueckiger (Berne), Dr. John R. Mohler (Chief of the Bureau of Animal Industry, U.S. Department of Agriculture, Washington, D.C.); Acute Infectious Mastitis—*Reporters* : Dr. F. C. Minett (Director, Research Institute in Animal Pathology, Royal Veterinary College, London), Professor Dr. M. Klimmer (Leipzig) and Professor Dr. W. Steck (Berne); Control of Trypanosomiases —*Reporters* : Dr. C. Bubberman (Java), Mr. H. E. Hornby (Government Veterinary Pathologist, Tanganyika Territory); Deficiency Diseases—*Reporters* : Professor Dr. J. Marek and Professor Dr. O. Wellman (Budapesth), and Professor Dr. V. Stang (Berlin).

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The Government Banquet to Foreign Delegates.

Minister of Agriculture on a Lesson for Statesmen.

The delegates attending the Eleventh International Veterinary Congress in London were the guests of the Government at a banquet at the Savoy Hotel, Strand, W.C., on Wednesday night (August 6th).

Proposing the toast of the Congress, the Rt. Hon. Christopher Addison, Minister of Agriculture and Fisheries, cordially welcomed the delegates on behalf of the British Government. Those congresses, he said, had advanced far beyond their original conception. Wherever they went they found an affinity between veterinary science and medical science.

The Congress should afford a valuable lesson to the statesmen of all countries. He was glad to say that, even after a too-long delay, the Government was setting up a Central Council of Research on Agricultural questions, and first and foremost, they were placing before that Council the problem of waste through animal diseases. Considering that in England alone we spent £700,000 a year on research work into agricultural questions, one wondered how little we had accomplished so far. We seemed to be only at the beginning of the matter.

Whether we turned to the tropics or to our own farmyards, we found what a great waste went on. Whether it concerned the ox or human beings, they were all fighting the insect in one country or another, and we were only just getting an inkling into the extent of its depredations.

He trusted that those congresses would tend to contribute something towards the advancement of knowledge. In their discussions they knew no futile tariff barriers. The world was their frontier, and they knew no other. That was their lesson for Statesmen. (Cheers.)

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Proceedings of Thursday, August 7th.

Two general meetings were held on the morning of Thursday, August 7th.

Contagious Abortion of Cattle, Sheep and Swine.

At the first of these meetings, in a paper on " Infectious abortion of cattle, swine, and sheep in the United States," Dr. W. E. Cotton (Superintendent of the Experimental Station, U.S. Department of Agriculture, Bethesda) said it was probable that the greatest cattle plague in the United States was infectious abortion. The disease appeared to have reached about every part of the United States and infected a large proportion of herds in the older dairy and cattle-raising sections. No systematic survey to determine the incidence of the disease had been made, but much blood-testing had been done in a number of States, which indicated that the proportion of infected herds in some localities might exceed 50 per cent., and the number of reacting cattle in such herds might average about 20 per cent. The losses caused by the malady had been estimated to exceed $50,000,000 per annum, and might be greatly in excess of this figure.

Professor Dr. W. Zwick (Director, Institute of Veterinary Hygiene, University of Giessen, Germany), said the use of living and dead vaccines against contagious abortion had been found valuable when systematically applied, but they had by no means furnished a complete solution to the problem of immunization. The production of a suitable process of protective inoculation was a matter for urgent investigation.

Other Reporters on this subject were Professor Halfdan Holth (Oslo), Professor A. Uranov and Professor B. Bohl (Moscow).

The Relationship of the Veterinary Surgeon to Animal Husbandry.

Discussion on this subject was initiated by Professor J. Share-Jones (Director of Veterinary Studies in the University of Liverpool). He said that our neglect to appreciate the magnitude and importance of animal husbandry had caused us to drift into the position of having to import more than 50 per cent. of the essential food products

derived from animals that we needed for our own consumption. Three years ago we imported for our own consumption :—

54 per cent. of our beef and veal.
59 per cent. of our mutton and lamb.
65 per cent. of our meat derived from pigs.
82 per cent. of our butter.
68 per cent. of our cheese.
54 per cent. of our milk and milk products.

Our total meat supplies produced at home in 1918 were 59 per cent. In 12 years this figure fell to 48 per cent., and it was still falling. In 1927 we imported nearly £16,000,000 worth of eggs, and in 1928 nearly £18,000,000 worth. France, in this latter year, more than trebled her business with us in this commodity. Our position with regard to these imports would be serious enough if the conditions in other countries remained stationary, but such was not the case. As regards meat, the United States, instead of being an exporter, had now become a competitor with us for the meat of the Argentine and New Zealand. An economic situation had thus arisen which demanded from us a greatly increased home production of the commodities provided by the domestic live stock. It was an urgent national need that these be produced in sufficient quantity and quality, and purchasable at prices within the means of the people.

There had been a concurrent neglect to attach a real value to veterinary science in Britain, and this was reflected in the annual output of qualified veterinary surgeons—one in 500,000 in the United Kingdom, as compared with one in 120,000 in the United States. The science would appear to be in danger of ceasing to exist as a separate entity in this country unless the present narrow interpretation of its service to the nation were corrected. Veterinary science did not, or was not allowed to, play the part for which it was designed, and this was due largely to the inadequacy of the law as it stood to-day. So far as veterinary science was concerned, the bulk of its legislation was based upon old Acts of Parliament which, in the light of present-day knowledge and requirements, had long become obsolete. The time was ripe to scrap all the existing Acts and Orders relating to domestic animals and to secure in their place one consolidated Act dealing with the animals, their products and by-products. An important contribution to the development of the industry would be a national system of live stock insurance. A long-felt want, this would relieve the individual farmer of the grave risk which he was obliged to carry and would pool it among all those engaged in the industry. But further, it was to be urged on the major ground of its bearing upon the prevention of disease in the human subject and in animals, and its direct relationship to the cost of essential foods of animal origin. The progress made in veterinary science in this country had far outstripped the measure of development of the public appreciation of its value. What was required now was not so much research as a vigorous and extensive application of existing knowledge.

Professor Gr. M. V. A. Hruza (Brno-Brünn) said that in many countries the successful co-operation of the veterinary surgeon in animal husbandry had been abundantly proved.

Professor Dr. S. Markowski (Lwów-Lemberg, Poland) said animal husbandry rested upon two fundamental principles—hygiene in the widest sense of the term, and economics, without which there could be no question of a rational animal husbandry. The first lay in the hands of the veterinary surgeon and the second in those of the agriculturist.

Distemper (Aetiology and Vaccination).

Sectional meetings discussed distemper, bovine sterility, rinderpest, and the treatment of parasitic diseases.

In the section dealing with distemper, Major G. W. Dunkin (Veterinary Superintendent of the Farm Laboratories of the National Institute for Medical Research) said dogs and hounds which had now been vaccinated over three years by the Laidlaw and Dunkin method still appeared to be quite immune and had suffered no ill-effects after being placed in contact with clinical cases of the disease.

Professor Dr. W. Hinz (Berlin) said up to the present the causation of distemper had been practically investigated in part only—namely, bacteriology—and no solution had been forthcoming. Clinicians, parasitologists, nutritional physiologists, and pathologists must work together. In view of the differences of opinion held, he recommended the formation of an international distemper research committee to investigate the problem systematically and rationally.

Professor Dr. H. Carré (Alfort) also reported to the Congress on this subject.

Bovine Sterility (Prophylaxis and Treatment) was reported on by Professor Dr. F. Benesch (Wien), Dr. R. L. Conklin (Quebec), Professor Dr. W. Frei (Zurich) and Professor Dr. J. Wester (Utrecht).

The reporters on the Prophylaxis of Rinderpest were : Msr. M G. C. Curasson (Soudan Français) and Professor W. Kearney (Dublin), while " The Treatment of Parasitic Diseases " was dealt with by Dr. E. A. R. F. Baudet (Utrecht) and Dr. J. Lahaye (Brussels).

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Official Congress Banquet.

The President on the History of Modern Veterinary Science.

This function was held at the Connaught Rooms, Great Queen Street, London, on the evening of Thursday, August 7th, 1930, Sir John M'Fadyean presiding over a company numbering approximately 700.

" Veterinary Medicine."

Following the honouring of the Loyal Toasts and a toast to " The Heads of the States whose representatives are here with us," Sir Peter Chalmers Mitchell, kt., f.r.s., ll.d., proposed the toast of " Veterinary Medicine."

Sir Peter said that it was well to remember the names of the founders of great movements; in 1863, nearly three-quarters of a century ago, Professor John Gamgee, an English veterinary surgeon, conceived the idea of bringing together veterinary surgeons from all over the world. The idea was received with enthusiasm and accordingly, in 1863, there was held at Hamburg the first of those great Congresses which, since then, had done so much to increase the knowledge of veterinary medicine and to raise the status of the veterinary profession. (Hear, hear.)

It was true that at that time veterinary medicine was more a skilled craft than founded upon scientific principles,

but they must not think that he wished to despise skilled craftsmanship—it was very often founded on the experience of long ages, and it was certainly true that the veterinary practitioners of those days were able to treat individual cases, to carry out splendid operations, to relieve symptoms and to do a very great deal of good. It was also true, he thought, that in certain respects they understood the psychology of their patients even better than some of the young men trained in modern laboratories. (Hear, hear.)

But, on the other hand, veterinary medicine in those days was an isolated pursuit. It was far apart from the great advances in physiology and pathology which contributed so largely to the success of human medicine. Veterinary surgeons dealt almost wholly with domestic animals, and there was an idea that veterinary medicine was, to tell the truth, a rather inferior kind of profession.

It was interesting to recall that in 1863, at the time when that great international movement was founded, the world was in the throes of the debate about Darwinism. If they remembered, "The Origin of Species" was published in 1859, and "The Descent of Man" in 1871, and in those days the whole world was agog with discussion about evolution. There might be differences of opinion as to how far natural selection on the survival of the fittest was the chief principle in producing evolution, but there was no doubt whatever about this fact—that Darwin had convinced the whole world that the life of plants, the life of animals and the life of man were all examples of some fundamental principle and should be studied by the same methods; that veterinary medicine and the medicine which dealt with human beings were sisters, dependent upon the science of general biology. They knew now that there was no such thing as a special veterinary pathology; the changes which took place in the tissues and cells of animals must be studied in the same way as, and were akin to, the changes which took place in the cells and the tissues of human beings, on the one hand, and of plants on the other. The principles of bacteriology and protozoology were the same for domestic animals as for man, while the advances in pharmacology that were useful to animals were also useful to man. The principles and the practice of preventive medicine were identical for the whole living world; they had come to a condition of things in which veterinary medicine was transforming itself into a science which was only one aspect of the study of the whole phenomenon of life. He thought that one of the most important things those International Congresses had accomplished was to bring together people from different countries who had studied arts and crafts based on the same general science of biology under the common ægis of the science of life. (Cheers.)

In 1863, when Gamgee first thought of those International Congresses, he was chiefly concerned about the statistics and the methods of treating the contagious diseases of animals. In those days transport, because of the increase in railways and shipping, was becoming very much greater, and there was much more danger than formerly of diseases being transmitted from one country to another. To-day conditions of transport were very much more alarming from the point of view of the intercommunication of the diseases of animals and of man in different countries. Motor cars which had been touring in Normandy, for instance, in infected areas, might be shaking off in England the mud they had brought over with them. The transport of animals and infection by aeroplane was another thing that had to be considered. The fact had to be faced that the interdependence of the nations was greater than ever before, and that diseases should be shut up in the places where they broke out. But all that sort of work was absolutely impossible of performance unless there existed a veterinary medicine founded upon a comprehensive knowledge of pathological science and carried out with the co-operation of medical men, of botanists and of entomologists; indeed, of representatives of every branch of science.

He felt certain that one of the great things those different Congresses could do was to bring before the Governments and peoples of the world the vast importance of their profession, the immense field of work that lay before it and the comparatively scanty recognition it received from the Governments of every country in proportion to the service its members had to perform. (Hear, hear.)

In his own University, that of Oxford, young graduates who were going to become doctors, after spending a specific period of their course at a University, went to the hospitals for practical experience before returning to the University to secure, if they deserved it, the Degree of Doctor of Medicine. He foresaw the time when the same thing would apply in veterinary medicine—when those who proposed to practise veterinary medicine should have their elementary course at one of the great Universities, in association with medical students, and that afterwards they should go to the veterinary colleges in order to get knowledge of the practical side of their profession. He believed that such a course would advance the status of veterinary medicine and make it more and more fit to carry out the great task it had before it for the benefit of the world. (Cheers.)

He had the honour to associate that toast with the name of his old friend, their President, Sir John M'Fadyean. Sir John had passed a long life in a long and strenuous fight for his profession and for all of them; he had fought with caution, with vigour and with success. (Hear, hear.) They rejoiced that he was there with them that night in flourishing health and still able to take an active and beneficial interest in the subject to which he had devoted his life. (Loud cheers.)

The President's Speech.

The President of the Congress (Sir John M'Fadyean), replying to the enthusiastically-honoured toast, said that he was sure that they had all listened with the same delight that he had to Sir Peter Chalmers Mitchell while proposing the toast of "Veterinary Medicine," and that they all appreciated to the full the terms in which he referred to their profession. (Hear, hear.) He showed quite clearly the interest which he took in it as one of the professions aspiring to be scientific.

The proposer had touched in a very instructive way on the history of the veterinary profession since Professor Gamgee took the initiative which led to the meeting of the first International Veterinary Congress, but if they would allow him, and did not think it inappropriate, he would like to go a little further back than that in the history of veterinary medicine.

Veterinary practice was an art as well as a science,

Congress, London, 1930.

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and when one enquired as to when the art actually began it was quite impossible to fix any definite date, but one could fix a definite date for the commencement of modern veterinary science; it was a date which, he thought they would agree, ought to be of extraordinary interest. It was one century before Gamgee suggested the meeting of an international veterinary congress; it was in the year 1763, and that date stood, and he hoped would ever continue to stand, as a landmark, because it was in that year that there was founded the Veterinary College in Lyons (cheers)—that was the first-founded veterinary college, and he was happy to tell them that they had a professor of that College there present with them—Professor Letard. (Cheers.) That was in 1763, as he had said; the foundation of veterinary science in this country followed in 1793, when the Royal Veterinary College—now in a state of delapidation—in London, was founded, and part of the original buildings were still in existence. Since then nearly all the principal countries of the European Continent had provided themselves with veterinary colleges, and he suggested that they might quite definitely date the foundation of veterinary science, as distinguished from an art, from the foundation of those institutions, because, whatever the opinions there were in existence with regard to animal disease before that time, they were not of the nature that could be called a science, they were not co-ordinated in any way and there was no provision made for the transmission of knowledge from one generation to another—and that was exactly what the veterinary colleges began to do; they began to collect those opinions and correlate them, and in that way to organise opinion so as to make a beginning of a science and to commence to transmit that correlated knowledge to their pupils. That was the beginning of veterinary science, and, though perhaps he might not be unbiased as speaking from within the profession, his own convinced opinion was that they—that was, the veterinary profession—had never had any occasion to be ashamed of the progress that they had made from that date in 1763. (Cheers.)

There was a curious point in connection with the foundation of the veterinary colleges; he had every reason to believe that the Governments of the Continent of Europe (he put aside this country in which they then were, for the Government of this country had hardly done anything for veterinary science) were ready to found veterinary colleges in order to have competent veterinary surgeons for use in war; that was his own reflection from the reading of the history of that period. They (his hearers) all knew how very important and essential a part cavalry had played in war and how essential the horse was for purposes of transport. A great historian who wrote 100 years ago defined war as the art or science of destroying the human species, and he (Sir John) thought it was to share in that destruction that Governments determined that they would provide competent veterinary surgeons. It was not to be inferred from that that he thought that even in those days veterinary surgeons were intimately connected with killing members of their species, and their employment with armies even at that time could be defended, because they undoubtedly saved much suffering to the horses. It was for the same reason, he believed, that the Government of this country in the early years of the nineteenth century was induced to give a sum of £20,000 to the Royal Veterinary College in England, because it had also become alive to the importance of having educated veterinary surgeons in the army, for at that time (about the year 1810) a large proportion of the students who passed were absorbed into the army. The Government of this country waited a century before it gave a penny to the Royal Veterinary College, or to any other veterinary college. He would leave it at that, because he was happy to recognise that within recent years what he might be permitted to call a much more enlightened view had been taken by Governments in this country, of their obligations (cheers), and he thought it was now generally recognised that it was unfair to treat the veterinary profession in this country as though it could be, so to speak, self-supporting, while in every other continental country the education of veterinary surgeons was largely supported by State funds. (Hear, hear.)

When one endeavoured to mark the rate of progress of the profession from time to time, at a length of, say, half a century, a very useful guide was to be found in the literature of the profession. Now, reading up the books that were in existence at the time of the foundation of the Royal Veterinary College almost made one's flesh creep with regard to treatment, the views held in regard to disease were so absolutely erroneous and the treatment was so cruel. There seemed to be no connection between the views that were held and the enlightened views which were held at the present day with regard to the nature and treatment and prevention of the diseases of the domestic animals. If one took the standard of measurement which he had suggested he thought it would be found that the progress of veterinary science did not compare unfavourably with that of any other science. (Hear, hear.) There were in existence two books in respect of the diseases of animals which would compare with any medical book in existence at the present day—he said that without any hesitation—and of one of them the author was on his right hand, and of the other the author was on his left. (Cheers.) The book of which his friend, Dr. Hutyra, in conjunction with Dr. Marek, was the author was a large work, originally published in German, on the Comparative Pathology and Therapeutics of the Domesticated Animals, and the other was the magnificent textbook on the Contagious Diseases of Animals, published by the late Professor Nocard in association with his friend Professor Leclainche. (Cheers.) There were many people who were quite ignorant of those books and whose opinion of the present position of the veterinary profession would, he was satisfied, be greatly changed if they would have a look at them. (Hear, hear.)

He did think that the holding of the Conference in Hamburg in 1863 was really a landmark in their profession, because it initiated the series of meetings that had since been pursued. They brought face to face the representatives of veterinary science and the veterinary profession from the different countries of the world and, speaking in that connection, he might hark back for a moment to the question of literature as marking what was the state of the science at the time. He had no hesitation in saying that no library with regard to veterinary science was complete if it had not got the published proceedings of all the International Veterinary Congresses that had taken place, and libraries that had them contained a record which showed most clearly the advancement of knowledge regarding veterinary science since 1863.

(Hear, hear.) He was, of course, happy to think that that Congress marked a step forward from any preceding one. (Cheers.) That was not due to any particular virtue in any of them, but it did mark forward progress in knowledge. In the first place, they were all very gratified that in respect of numbers that Congress had exceeded all previous ones; he was told that the number of private members was 1,800. (Cheers.) If he might be permitted to express an opinion, he thought that the standard of papers which had been submitted as the bases of discussion at that Congress was also quite up to any previous standard. Personally, he felt it very encouraging that so many of the Reporters had been comparatively young men, who had been able to deal with perfect competency with the different branches of veterinary science, such as bacteriology, pathology and protozoology, and that was very encouraging. (Loud cheers.)

"Agriculture."

This toast was in the capable hands of Lieut.-Colonel J. W. Brittlebank, C.M.G., M.R.C.V.S., D.V.S.M., who said that one of the reasons why he supposed that he had been called upon to submit that toast was that he was Treasurer of the Congress and so might be presumed to have some knowledge of economic problems; another reason might be that for that duty someone was required who possessed the qualifications which seemed to be requisite for the proposer of the toast of agriculture in its present position—somebody with an affluent look and a benevolent expression. (Laughter.)

He was certain that no toast which was before that great gathering that night would be received with greater acclamation. (Cheers.) It was easy to trace the descent of agriculture: they knew that the first recorded agriculturist was Adam and that his confederate, Eve, was the first recorded horticulturist: they saw the consequences of blending two sciences in those days. (Laughter.) Agriculture had descended throughout the ages, dependent upon the blending of many assets, many personalities, many gifts and much industry. We especially, in this old country of ours, but also those in countries from which came many of the distinguished visitors whom it was their privilege to have with them that evening, had problems in regard to agriculture, but there could be no second opinion that a prosperous and flourishing agriculture was essential to every country in the civilised or uncivilised world. (Hear, hear.)

There were many economists who seemed to have forgotten the very existence of agriculture; they seemed to forget that it was the very life-blood of any country, not only in regard to its capacity for producing food either by tillage or by its agricultural animal population, but in regard to the vital fact that it was essential to the welfare of the world that there should be produced a vigorous and healthy manhood to replenish the decadent population of their urban centres, because there could be no doubt that unless they had a really vigorous agricultural population, any community herded together under the conditions required by modern life must of necessity become decayed: it required continuous replenishment. He was much interested, only on the preceding Monday, by an article which he read in that wonderful organ which was such a great national asset, *The Times* newspaper. They owed much to that author and to the other gentlemen who contributed to the literature on agriculture which appeared in that paper. (Hear, hear.)

There could be no doubt that those great problems concerning agriculture which were before their statesmen and advisers were of enormous fundamental importance, and when they realised how little it seemed to be possible to do for that great industry it made them really wonder whether it was possible to secure some sanity in their national administration. They had begged and they had kept on begging, and they hoped for the time when that great, fundamental industry of theirs might cease to be the shuttlecock of party politics. (Hear, hear.) When they realised that the animal wealth of this country exceeded by far all other sources of wealth from the land, and that grants for research were in exactly inverse ratio, one wondered whether any proper perspective were possible.

This was a stock-raising country: the greatest, probably, in the world: others might catch us up in time, but at present we were proud of our flocks and our herds, but when they realised that this greatest of our national assets was starved in the way it was, it seemed almost pathetic to have to get up and say so.

They had with them that night Captain Norris, the leader of that great organisation, the National Farmers' Union. (Cheers.) He had had the honour to know—as many of them had had—many of their leaders in the past, but to none of them could they extend a more hearty welcome than they did to Captain Norris. (Hear, hear.) His task was one requiring almost superhuman industry and endeavour. They wished him well. (Cheers.) They were themselves part of agriculture; they were dependent on agriculture, and they looked to Captain Norris and those advisers who had so wisely helped him to try and bring the great industry which he represented out of the mire in which it found itself. (Cheers.)

The toast having been honoured with fervour, Capt. Norris (President of the National Farmers' Union), in the course of his acknowledgment of the compliment, returned thanks for the opportunity afforded him of meeting so many of those who were so closely allied and were such a necessity to the great industry which he represented. He desired to convey the thanks of the farmers, not only of this country, but of the great dominions overseas, to the veterinary profession, and more especially, perhaps, to those great scientists amongst them who, day in and day out, were trying to solve, and were solving to a great extent, many of the ills to which the stock of this and other countries were subject.

He was very grateful to the proposer of that toast for the manner in which he had proposed it, and especially so in regard to what he had said concerning the fundamental fact that no nation, wherever it might be situated, could hope to continue as a first-class power if it neglected the basic industry of agriculture.

It was not his intention to weary them with a recital of the ills from which they suffered, but perhaps it might not be out of place to suggest to this company that many of those ills were occasioned by theorists. (Hear, hear.) He spoke only as a very humble member of the agricultural community, but as a severely practical member of that community, one who stood for science combined with practice, but who had no use for theory that could not be put into practice without risk of injury to the industry. (Cheers.)

He had sat there listening with great interest to the speeches which had preceded that toast, and he had realised with awe what a lot those gentlemen who had spoken must know (laughter), but he would remind the younger members of their great and noble profession there that night that they should never forget that a farmer was mainly concerned, when his livestock were ill, that they should save them, and if they came to him and were quite convinced what was the matter with the animal, let them tell him in plain English what the malady was: only when they were not quite certain should they quote it to him in Latin. (Laughter.)

He was absolutely in accord with what had fallen from the lips of previous speakers, and realising the importance of their profession, not only to agriculture, but to the nation—and that they had been badly served by the nation, or rather by the representatives of the nation irrespective of the party to which they belonged—on behalf of the farmers of the country, he wanted to pay his tribute to what the veterinary profession had performed in combating animal disease in spite of the insurmountable difficulties they had had to overcome and which they should never have had to overcome had the nation looked at the diseases of animals in the light that they should. He was glad to think that there was an awakening—a realisation, which he always thought must be forthcoming, that the veterinary profession in this country, or in any, was not second in any way to the medical profession.

He was glad to learn that their governors had decided that their students of the future should receive a more extended system of practical training. That was a point that appealed very strongly to him as a practical man. If one knew all about an animal when it was in good health one would have a better chance of knowing what was the matter when it was ill. He believed most of those young men went into the profession first of all because of their love of animals: there was that attraction and if there were not he ventured to suggest that no one who entered into the profession was ever going to be successful. He agreed with the suggestion that every student should spend some part of his training course with a veterinary surgeon in practice, so that he could go about amongst the farmers and begin to learn the basis of the principles of animal life.

He hoped and trusted that, as Colonel Brittlebank had suggested, there would arise those who seriously saw the necessity for a successful agriculture in the life of the nation, who realised that if they were going to get a healthy and vigorous race the proper breeding ground was the country-side. If they could get that point of view accepted amongst those politicians who had, up to the present, paid so much lip service to the industry, yet given so very little real help, he felt no concern for the future of agriculture in this country. (Loud cheers.)

"Delegates and Members of other Nations."

Dr. O. Charnock Bradley, M.D., D.Sc., M.R.C.V.S., in submitting the above toast to the company, said that he thought they would readily understand that he approached that toast with a feeling of great honour and tremendous responsibility; he could claim, were he not modest, that that was the toast of the evening. It was a toast, it seemed to him, that required the gift of tongues; indeed, it required the gift of forty-six tongues, as he had been told. That necessity was rather painfully borne in upon him by his experience of the last few days: he seemed to have spent quite half his time stammering and stuttering "Je ne sois pas bien le Français," or "Ich spreche Deutsch nur schreckliche." (Laughter.) They would see, therefore, from the fact that his time had been spent merely repeating those two phrases, that he was not gifted with tongues.

Nevertheless, he did feel distinctly proud to ask them to drink the health of the delegates and members of other nations. He felt proud to do that for a number of reasons: he felt proud to do it largely because it allowed him to express gratitude to them; their presence was a necessity, an essential necessity, for an International Congress; without them the Congress could not have done, what one felt convinced it had done, brought together not only a multitude of people from the various corners of the earth, but a mass of knowledge that when turned into useful channels would relieve many of the needs of the industry of which they had heard so much, and which was apparently, and he believed truthfully, described as being in so lamentable a condition not only in this country, but elsewhere, namely, agriculture. He thought they would agree that those Congresses by dissemination, condensation and application of knowledge would ultimately assist in no small measure the progress of agriculture. (Cheers.)

They were also grateful to the delegates and members of other nations for a reason that the President the previous night, with complete truth and no little eloquence, adumbrated. Sir John had said that to his mind it was highly probable that the most important function of a congress of that sort was the fostering of brotherhood, and the Congress, therefore, inasmuch as it consisted of delegates, must be grateful to those members who allowed it to foster that brotherhood, drawing tighter the bonds that linked together the peoples of the various nations. His task was made an exceedingly easy one by the choice that was made by the committee of the names of those with whom he had to couple that toast. He could only imagine that the Dinner Committee was inspired for once when they put down the three names which he had to propose to them, and which were on the card. Of Dr. Ostertag he found words utterly inadequate to speak. His name he (Dr. Bradley) knew was reverenced in his own country; one knew what he had done in his own country in various directions in the direction of administration, in the direction of science, in the direction of literature, and he could assure them that however much Dr. Ostertag's name might be reverenced, held in respect, and might he say affection, in Germany, his name was revered no less in this country. (Cheers.)

Of Professor Vallée, again, he might speak in very warm terms. His difficulty was to express his feelings towards Professor Vallée properly and at the same time soberly. He used the word soberly for two reasons at least, first, because that was a post-prandial speech, and secondly, because if ever they chanced to give a dinner at which Professor Vallée was present they must please allow him to choose the wines. (Laughter.)

Dr. Hilton's name was well known to them. He came representing a great continent in which enormous progress had been made in veterinary science during the memory of people still living. (Hear, hear.) In no country had progress been so rapid and so astonishing, and Dr. Hilton occupied a position in that country of great responsibility, for one might say that in his hands rested the health of the animal population of one of their largest dominions.

He felt confident that they wished to hear no more from him: that they would rather hear from the three famous men whose names he had given. He would ask them, therefore, to drink the health of the delegates, members of other nations, and with them couple the names of Dr. Ostertag, Professor Vallée and Dr. Hilton.

Following are reports of the very able summaries given to the assembly, by the interpreter, of the speeches of Dr. Ostertag and Professor Vallée respectively in reply to the toast.

Professor Dr. VON OSTERTAG said that he had to thank Dr. Bradley for the all too flattering words he used in respect to him; he feared that Dr. Bradley had told them far too much about him. (No, no.) He remembered that when he came to London forty years ago to attend the International Congress of Hygiene and Demography he was very glad to have the very friendly and valuable aid of Sir John M'Fadyean; Sir John was good enough to bring him safely through all the perils of London. (Laughter.) He was very glad to be able to think of those days long gone by and to find Sir John M'Fadyean to-day so vigorous and so young in spirit: he hoped he would still have many years of good service in the work he had undertaken and carried on in that spirit of usefulness. (Cheers.)

His friend Dr. Leclainche had said in his speech at the opening of the Congress, that it should be called the M'Fadyean Congress, and went on to say that there was a period in the history of the Congress which they might rightly have called the period of Sir John M'Fadyean. Sir John had done wonderful work as an adviser to the Government, as a teacher and as a scientist.

That was indeed a magnificent Congress, securing as it had done, a membership of some 1,800; and the fact showed how acceptable the idea of holding the Congress in London was to veterinarians of every nation in the world. (Cheers.)

He hoped that they would see for themselves the splendid types of British livestock of which they had heard so much, and they would also esteem the opportunities which were to be afforded them of visiting the great meat killing and storing centres of that huge metropolis.

A few days previously he had the pleasure, at the Museum at South Kensington, of experiencing the renowned hospitality of Londoners, and also of viewing the magnificent natural history exhibits.

In 1848, proceeded Dr. Ostertag, a Health Ministry for England was founded. That stood as an example to the whole world, and in 1857 the famous Health Act was passed. Progressive milk legislation followed in 1876, in the Milk Act for Scotland. There were important landmarks in the great work which had been carried on in the British Isles for preserving the health of the population.

Those Congresses not only promoted scientific research, but also (as Dr. Bradley had so well said) fostered that brotherhood which was so necessary between the members of the profession in all the countries of the world. No country was better fitted to be the scene of that Congress than dear old England, where they had enjoyed so much hospitality in the past, where they had been honoured in so many ways and where they had so many old friends. (Cheers.) If one wanted to know a land one had to go into that land, and the English people, who had such a reputation for reserve were, when one came to know them, the most hospitable and friendly people in existence—a people of whom one came to have a very high opinion indeed.

He thanked the Organising Committee of the Congress most heartily: their efforts had made the event a very agreeable one for the delegates of other nations, as, indeed, for all. (Hear, hear.) He wanted particularly to thank Sir John M'Fadyean, their revered President; Dr. Bradley, Professor Buxton, Colonel Brittlebank and Dr. Bullock, their indefatigable General Secretary; wherever one went one heard the name of Bullock—it was "Bullock, Bullock, Bullock" all the time, in three or more different tongues and all the time that continuous stream of enquiries was met with the requisite information and the self-same smile. (Laughter and cheers.)

It was his very agreeable duty to thank them for the very kind way in which they had made their stay amongst them so agreeable. "Long live British Veterinary Science, and may it progress for ever along the lines of Sir John M'Fadyean." (Loud cheers.)

Professor Dr. H. Vallée said that their great city created in everyone who came to it a feeling of admiration: one was overwhelmed by a power and majesty that was in curious contrast to the simple, friendly hospitality of their customs—these took one's heart at once. (Hear, hear.)

He was deeply impressed by the power and strength of British initiative that was everywhere evident: they relied upon themselves and upon their spirit of enterprise. That Eleventh International Veterinary Congress was an undertaking of such magnitude as appealed to the British spirit of initiative and power of organisation. What did that Congress signify? Did it signify only the importance and progress of their own professional interest? No, it did not. Out of that Congress, and it was the idea underlying the activities of its organisers, would come results which would be of immense benefit not only to animal health but to human life itself. (Hear, hear.) Therefore, they were dealing with such a variety of subjects as tuberculosis, foot-and-mouth disease, genetics and other matters connected with the maintenance in health of the human and animal populations. The protection of human life was indeed intimately connected with veterinary science; he need only instance the question of the inspection of the meat which they consumed daily. Those questions were tackled by their Congresses, but their aim was higher yet—it was to advance the progress of science generally.

In the past they had reaped much benefit from the work of the medical profession, but they were rapidly paying back their debt. (Hear, hear.) The study of the contagious diseases of the animal world was revealing much

information of great benefit to those whose primary duty it was to safeguard the health of the human race.

The success of that Congress was such as commanded the admiration of the members of other nations. It had beaten all previous records, and he would say (and he had seen many of them) that he had never yet attended one at which so many distinguished members were present. That was due to the fine spirit of the organisers: to their never-tiring enterprise and work. (Cheers.) He wanted to recall, in that connection, the name of Prof. John Gamgee—his foresight, industry and determination in initiating the series of Congresses, and with the name of their founder might properly be coupled that of their present illustrious President, Sir John M'Fadyean, for his name, too, would always be remembered and reverenced as a zealous supporter and participant in International Veterinary Congresses. Sir John M'Fadyean's name was proudly claimed by Britain, but he thought it belonged to the world. (Cheers.) France and other nations claimed their share in him. (Renewed cheers.)

He desired also to speak of Professor Buxton, whose share in the work of organising the Congress had been so immense (cheers), and those other gentlemen to whom tribute had so justly been paid by his colleague, Dr. Ostertag—Dr. Bradley, Colonel Brittlebank, and Dr. Bullock. (Cheers.)

Everywhere the delegates from other nations had met with the most cordial welcome, and they all felt an infinite gratitude that they could not adequately express. He tendered their most grateful thanks to Sir John M'Fadyean and to veterinary science in Great Britain. He wished all prosperity to British veterinary science: might it progress more and more. (Loud cheers.)

Dr. George Hilton, Veterinary Director-General of Canada, who also responded, said that he felt it a very great privilege to reply to the toast proposed in such kindly terms by Dr. Bradley; and more particularly so on such a happy occasion and before an audience such as that—of veterinarians and others from many countries, all interested in the conservation of life and the welfare of man and of the lower animals. His attention had been drawn to the very interesting fact that they had with them that evening a distinguished nephew of Professor John Gamgee, the originator of those international veterinary congresses: it was a very great pleasure to him to acquaint them of that fact. (Cheers.)

The veterinary profession had again demonstrated its determination to render the greatest possible service to human and animal welfare by calling an international conference to discuss difficult problems and to exchange ideas with a view to improving its methods in the conservation of the livestock of the world. There was probably no other calling which offered so many opportunities for service: much could be said of the far-reaching effects of veterinary research, from which medical science had benefited and to which the medical profession paid tribute.

Dr. Bradley had referred to the veterinary profession in Canada being in its infancy. The veterinary profession in Canada was, comparatively speaking, a young one: veterinary education commenced in Canada during the time that the specific nature of infectious diseases was being demonstrated. At that time, when the new knowledge was replacing old theories, the late Adam Smith came from Scotland and established a veterinary school at Toronto in 1867. In the following year another Scotsman, the late Duncan MacKinnon, came to the Dominion and inaugurated a course of lectures on veterinary medicine in connection with the Faculty of Medicine at the Unversity of McGill. Those two veterinarians were the pioneers of veterinary medicine and training in Canada. They not only established the first two veterinary schools, but also created a professional organisation for protecting livestock from epidemics within and from scourges which might come from without. The gradual and in more recent years the rapid growth of the animal industry, and the increase in losses from diseases due to the long impoverishment of the soil, had given unmistakable evidence of the great need that there was for an efficient veterinary service. Nevertheless, there was little demand to-day for the veterinarian who had not pursued a system of reading and study, but there was a greater demand than ever before for the better trained, well-informed, capable modern veterinarian.

The livestock industry had become so vast that it was certain to produce greater problems. The practice of the veterinary art had been confronted with varying demands for service resulting from the development of civilisation, but the veterinary profession had been alive to the situation; its colleges were no longer schools for elementary veterinary instruction, but institutions where every branch of veterinary science, including preventive medicine, surgery, hygiene, nutrition and sanitation, was receiving consideration. It was their duty to demand that their meat and milk supply came only from healthy animals and that it was prepared, stored and distributed under healthy conditions. He did not think that there had ever been a greater need for a campaign for health preservation than there was at the present time, and the veterinarian was in a position to render real service in that connection, not by public agitation but by careful, tactful, personal approach to the medical fraternity and to public health officials in his community. (Hear, hear.)

Their profession had undoubtedly a promising future; it was brimful of potentialities for the good of the human race; it was a sound enterprise, to conserve millions, and it took little for its reward. (Cheers.)

The advent of the lady veterinarian in recent years was another unmistakable sign of progress. (Hear, hear.) The veterinary profession welcomed women to its ranks; their presence added a touch of refinement that would enhance the tone of the profession. (Hear, hear.)

International veterinary congresses were undoubtedly of inestimable value, and with the wonderful improvement in their methods of training he hoped that they would be held more frequently in the future. (Loud cheers.)

This concluded the official toast list, but Sir Arnold Theiler rose to submit: "The Hon. General Secretary of the Congress, Professor J. B. Buxton." Sir Arnold said that Professor Buxton was not only a distinguished English scientist, the Director of the Institute of Animal Pathology at Cambridge, but he had also proved himself to be a most successful organiser, who had put his shoulder with a will to the great task of organising that immense Congress, with magnificent results.

The toast was drunk with much cheering, and Professor

Buxton, in acknowledgment of the compliment, said that the Committee from the outset had recognised that upon them devolved the task of organising a "record" Congress, but he wanted to say that the success of that Conference was due to one or two factors other than those over which he had any control. The first was the amazing enthusiasm which had been shown by the delegates of every nation represented there—and he might say that they had the representatives of over sixty nations in the programme which they had provided for their entertainment. Secondly, the success was due to the amazing help which he had had from all his colleagues, and the staff which had worked so loyally and so well to make that Conference a success. He could not pay a greater tribute to the work of Dr. Bullock and the whole of the staff. (Cheers.)

Finally—and he had left it to the last because it was the most important—they must say that success was due primarily to their President, Sir John M'Fadyean. (Loud cheers.) He (Professor Buxton) was one who had always broken all the rules of the Medes and Persians, and he therefore asked them to rise to drink the health of the President, Sir John M'Fadyean.

The toast was drunk with musical honours, and Sir John M'Fadyean, replying, said that he felt destitute of words to express all that he felt to Professor Buxton and to all the members there present. Like Professor Buxton, he was going to break all the rules of the Medes and Persians by harking back to a previous toast, namely, the reply that was made by Professor Ostertag. The latter was good enough to recall with pleasure the time that he and the speaker met together at the International Congress of Public Health and Demography, how many years ago he could not at the moment tell them, but he omitted to say that that was not the beginning of their acquaintance; he had met him before when he went as a pilgrim to Berlin, and on that occasion Dr. Ostertag showed him such kindness and help as he should remember as long as he lived. (Hear, hear.)

He was not searching his mind for compliments, but he would like to say this: that if it was considered that he deserved any respect or gratitude as a teacher of veterinary pathology, it was largely due to the fact that in his youth he determined that he would make himself acquainted with the literature on veterinary science contributed by the authors of Germany and France. (Cheers.)

He could say much more, but he remembered the hour and would therefore conclude by saying that when he thought that he was President of that great Congress, at which were assembled so many distinguished men from all parts of the world, he said, without hypocrisy: "This is one of the proudest moments of my life." (Loud cheers.)

The proceedings terminated with a warmly-accorded toast to the 400 lady members of the Congress (proposed by Dr. Hutyra), followed by the National Anthem.

(To be Concluded.)

Dr. Addison, Minister of Agriculture, has presented a Bill in Parliament "to enable schemes to be made for regulating the marketing of certain agricultural products by the producers thereof; and for encouraging agricultural research and education."

Royal Sanitary Institute Congress at Margate.

(Continued from page 756.)

Report of Proceedings of Section "F"—Veterinary Hygiene.

The Section now entered upon consideration of the following paper, read by Major D. S. Rabagliati.

Veterinary Science in Relation to State and Municipal Control.

By D. S. Rabagliati, O.B.E., B.Sc., F.R.C.V.S., D.V.S.M., Chief Veterinary Officer to the County Council of the West Riding of Yorkshire.

To "the man in the street" even to-day, the inclusion of a section of Veterinary Hygiene in a Congress such as this may be looked upon as a matter for surprise; for what does he know of the part already played by the Veterinarian in Public Health, or does he even dream of the position the profession is destined to take in the future—and let us hope this is not very far distant? Little, perhaps, does the casual observer realise the enormous part played by animals and animal products in his daily life, and as the veterinary profession ought to be—and largely is—responsible for these, its claims for further recognition by Public Health Authorities cannot be long delayed.

From what as a profession we suffer most, is the ignorance and apathy of the masses with regard to our work, and I have no hesitation in saying that many of the anomalies of our legislation, especially with regard to milk and even meat, are due to the fact that the profession was not sufficiently consulted in drawing it up.

The State and Municipal Authorities do not take into consideration the work of the veterinarian in the cure of disease amongst our animals, great as it is; nor is it their duty to do so, but when we come to preventive veterinary medicine the position is totally altered. I think it will be agreed that the authorities should only deal with those animal diseases which are so severe and widespread as to cause a serious economic loss to the community or which are a danger to the public health, either directly or indirectly. It is to the latter group that I would especially draw your attention to-day.

There are thirteen diseases scheduled for some purpose or other by the Ministry of Agriculture and Fisheries, and certain others mentioned in Public Health Regulations connected with milk, meat, etc. The 13 diseases referred to are cattle-plague, contagious pleuro-pneumonia of cattle, sheep pox, foot-and-mouth disease, swine fever, anthrax, epizootic lymphangitis, parasitic mange of equines, sheep scab, glanders and farcy, rabies, tuberculosis (some forms) and contagious abortion of cattle (for some purposes). Of the above list, all but three are either directly communicable to man or else render the products derived from affected animals deleterious for human consumption. The diseases quoted are all controlled by powers contained in the Diseases of Animals Acts, 1894-1927, and by a large number of

Orders for specific conditions made by the Minister of Agriculture and Fisheries under the Acts. Powers also exist for the inclusion of any other disease which the Minister may from time to time consider necessary. Some of the diseases are dealt with directly by the Ministry of Agriculture through its veterinary staff; others by the veterinary officers acting for the various local authorities.

As is well known to all, regulations are made by the Ministry of Health under the Acts dealing with milk and milk products, concerning the health and housing of cattle, and under the meat regulations with regard to the disposal of diseased meat, all of which are questions for the veterinarian. Many of these regulations are ambiguous and confusing and overlap those of the Ministry of Agriculture. When it is realised that on the staff of the Ministry of Health there is not one member of the veterinary profession to advise the Ministry in matters pertaining to animal disease, is this to be wondered at? Yet such is the ignorance of our people on these matters that this Gilbertian procedure passes unnoticed—uncriticised!! The time has thus arrived for consideration as to whether it would not be better to create a State Veterinary Service which should deal with all questions of animal health and disease. Whether such a service should be attached to the Ministry of Health or to the Ministry of Agriculture would have to be settled, but one of its first duties would be to re-draft and to simplify many of the existing regulations and to make itself responsible for all matters of animal husbandry. Its relationship to local government would have to be most carefully considered, but probably its functions should be largely advisory and supervisory and as Municipal and County Veterinary Services become general instead of exceptional, it could delegate more and more powers to these bodies. In fact, I think signs are not wanting to indicate that the time is not very far off when it will be considered almost as essential for counties and the larger municipal boroughs to have their whole-time veterinary officers as their medical officers of health.

Let us now look at the existing veterinary services of the country and see what they have achieved. The Diseases of Animals Division of the Ministry of Agriculture through its veterinary staff is responsible for seeing that the Diseases of Animals Acts and Orders are carried out, and its officials themselves take almost the whole responsibility for dealing with cattle plague, contagious pleuro-pneumonia, swine fever, sheep pox, and foot-and-mouth disease. The control of anthrax, sheep scab, glanders and rabies is carried out partly by the Ministry and partly by the Local Authority, while Local Authorities take full control of epizootic lymphangitis, parasitic mange of equines, tuberculosis and contagious abortion, though the regulations concerning the last-named are at present almost negligible. Through the efforts of the veterinary profession, cattle plague, pleuro-pneumonia, sheep pox, rabies, glanders and epizootic lymphangitis have been completely eradicated from the country. The present generation has no recollection of the terrible scourge that cattle plague and pleuro-pneumonia caused amongst our herds, and the advantages brought about by the elimination of such serious menaces to human health as rabies and glanders are not fully realised. Only those who have lived abroad and seen the results of these plagues can fully appreciate the benefits under which we live in this country in this respect—and chiefly to the veterinary profession do we owe our present freedom.

In addition to the veterinary staff of the Ministry, all local authorities, both municipal and county, have veterinary officers to carry out the Diseases of Animals Acts and Orders. A few of these are whole-time officers, while others are part-time; some carry out public health duties in addition, while others—and I regret to say far too many—have no opportunity of doing so in their official capacities as the terms of their appointments largely prevent them.

So much for what has been done, but do not think I would suggest we should rest on our laurels, for what has been accomplished is a mere bagatelle to what lies before us. Coming to the remainder of the scheduled diseases; we find that the position of swine fever is by no means so satisfactory as those previously mentioned. Our present knowledge both of the causation and means of spread of this disease is inadequate and before we can hope satisfactorily to control it, further research into many of its present hidden mysteries is urgently called for.

Sheep scab has considerably decreased of late years, though it is still prevalent to quite an unnecessary extent. The difficulties surrounding its extermination largely centre round a comparatively few prejudiced sheep farmers who refuse their help and co-operation to the veterinary officials.

Contagious abortion of cattle is only scheduled in that it is illegal to expose in a market a cow which has recently aborted. The similarity of the causal organism (*Brucella abortus*) to that of Malta fever (*Micrococcus melitensis*) pathogenic to man, and the occurrence of cases of undulant fever in the human subject, stated by certain authorities to be due to the causal organism of abortion in cows, has of late brought the condition into prominence from the public health standpoint. Considering the great frequency of this disease amongst our milk-producing cows, further research is urgently called for, and if the claim that the causal organism may really be transmitted through milk to mankind can be substantiated, special legislation regarding it will in all probability be considered necessary.

I have purposely left the consideration of tuberculosis to the last, not because it is the least, but because from a public health point of view it is one of the most vexed questions of the day and I wish to say most about it. The question has been discussed at this and other congresses times without number and papers dealing with it from all angles have been read and argued about. As is well known, large numbers of children die annually from tuberculosis of bovine origin, infected by cow's milk, and a vastly greater number are incapacitated thereby to a greater or lesser extent, and even how many human adults affected with other forms of tuberculosis owe its origin to some previous bovine infection is still a debatable point. The loss to the agricultural community is colossal, approaching if even not exceeding £2,000,000 annually, and the loss to the meat trade from the same cause is so well known that there is no need for me to stress it further. That something should be done is agreed by all, but just what and how are questions much more difficult to solve. The sale of tuberculous milk is a penal offence under the Milk and Dairies legislation, our meat regulations enable an inspector to condemn tuberculous meat either in whole or in part, but despite all this there has been little if any general diminution up to now. The Tuberculosis Order of 1925—if we except the similar one of 1913 whose use

was curtailed by the war—is the first legislation enabling us in any way to deal at all adequately with diseased cattle. The Order has been much criticised by members of the veterinary profession and others, many of whom gave it as their opinion, probably quite rightly, that it was totally inadequate appreciably to lessen, not to speak of eradicating, the disease. It was introduced first as a public health measure to safeguard our milk and meat supply, and secondly as a first step—a "feeler" so to speak—in an attempt to reduce tuberculosis from our herds. By itself it is weak and almost useless, but along with the powers given by the Milk and Dairies Acts and Orders, it is a most useful and powerful measure from a public health standpoint. That it has not been of more use up to now—this statement does not apply to Scotland—is largely due to the action of the Ministry of Health, who having given power to carry out a veterinary inspection of all milk-producing cows, then issued a most unfortunate circular, more or less suggesting that such inspections were not always advisable. Out of 59 County Councils in England and Wales only 10 have whole-time veterinary officers who carry out any regular veterinary inspection of dairy cows, and up to now, only a few of these have been able to do so all over their counties; and of the remainder only two, to the best of my knowledge, have arranged for this work to be done by part-time veterinary surgeons. In Scotland inspection of all milk cows is obligatory, but in England the Municipal Authorities have been much more active than the counties in this respect. One of the disadvantages of a county inspecting its cattle and its neighbours not doing so, is that the farmers and dealers where strict inspection is enforced become much more careful both of what they buy and what they keep and there is a very real danger of an excessively large number of doubtful cattle finding their way to adjacent districts where they are not detected. The Tuberculosis Order when intelligently carried out has done much good, and has, if even had it achieved nothing else, opened the eyes of both the stock-owners and the Public Health Authorities to the menace of the disease.

I need hardly mention to such an audience as this that the chief, though by no means the only value of routine veterinary inspection of dairy cattle, is the elimination of the cow with tuberculosis of the udder. It is now well recognised that but few of such animals are ever reported by their owners, at least until they have gone far down the hill, and if they are to be removed from our herds they must be actively searched for. Sufficient evidence has now been accumulated to show that the ideal method at present—that is until we make much more progress in ridding our herds of the disease—is a combination of regular veterinary inspection of all diary cattle with frequent examination of bulk samples of milk. To show the value of this inspection, I would draw your attention to the figures obtained by the working of the Tuberculosis Order in the administrative area of the County Council of the West Riding of Yorkshire from April 1st, 1926, to March 31st, 1930. Active veterinary inspection only began about October, 1927, in half of the county, and the whole of the administrative area was not covered until the latter part of 1928. The attached table shows the cows killed under the Order for the three categories of the disease in the four years named.

Tuberculous Cows and Heifers Killed under the Tuberculosis Order, 1925, in the Administrative County Area of the West Riding of Yorkshire.

Category of Disease.	1926-7.	1927-8.	1928-9.	1929-30.
Tuberculosis of the Udder or giving tuberculous milk ...	112	145	229	292
Tuberculous Emaciation	415	423	280	186
Tuberculosis with Chronic Cough ...	285	286	283	336
Total	812	854	792	814

You will notice the rise of those found with tuberculosis of the udder after the regular inspections began and the corresponding fall in those slaughtered for tuberculosis emaciation. This I think may be taken to indicate that we are really getting hold of the diseased cattle at a much earlier stage than was formerly the case. I would point out that out of 814 tuberculous cows killed by the West Riding County Council in 1929-30, 292 or 35·9 per cent. were slaughtered on account of udder tuberculosis, whereas the figures given by the Ministry of Agriculture and Fisheries for the year 1928, the last figures available, over the whole of the United Kingdom only show a corresponding percentage of 16·4. In addition to the 292 mentioned, seven were found in boroughs by the County Veterinary Staff and reported to the local authorities concerned. If we compare the figures for the year 1926-27 with those for 1929-30 in the West Riding Administrative area, we find that practically the same number of cows were slaughtered, namely 812 and 814 respectively. In the first year, when there was no veterinary inspection, only 13·8 per cent. of the cows were reported to have tuberculosis of the udder, whereas 51·1 per cent. were taken for tuberculous emaciation and 35·1 per cent. for chronic cough. In the second period, when veterinary inspection was general, we find that 35·9 per cent. had tuberculosis of the udder, only 22·8 per cent. were taken for tuberculosis emaciation and 41·3 for chronic cough. As the West Riding is large and varied enough to give a very good idea of the general conditions prevailing in the country this must be taken as a striking testimony of the value of veterinary work in this respect.

A scheme has recently been elaborated by the West of Scotland Division of the National Veterinary Medical Association of Great Britain and Ireland and passed by the Scottish Branch to the Ministry of Agriculture and other Government Departments. This scheme aims at commencing the work of eradicating the disease from the herds of Scotland and there is no doubt that before long, either it or one with a similar object in view, will have a large backing. The realisation of the present most serious position is perhaps most noticeable in Scotland where veterinary public health measures are far ahead of those in England, but it is also growing south of the border. The scheme in question asks for Government help and control in testing herds with tuberculin and is based on an admixture of the American and Canadian plans along with the method of tuberculosis eradication advocated by Professor Bang of Denmark. The whole essence of the

scheme is that breeding herds and others especially suitable should be dealt with first so as to form a supply of young tuberculosis-free stock and when these are numerous enough, special tuberculosis-free islands of the country should be created and finally the whole country should be covered. It is greatly to be hoped that this scheme or a modification of it can be made applicable to England in the near future.

Up to now I have only mentioned those diseases actually scheduled, but many others exist which are causing very serious economic loss to agriculturists and frequently give much trouble to public health officials in their capacity of meat and food inspectors. Prominent among these are Johne's disease, swine erysipelas, caseous lymphadenitis in sheep, mastitis of the cow and innumerable parasitic conditions, to name only a few. It is certainly from the veterinary profession that advice should be sought in their further investigation or in the framing of legislation to deal with them.

A most important branch of veterinary work which is fortunately coming more and more to the fore is research into animal diseases. That the State is now appreciating the need of more trained workers in this branch of the profession is noticeable and the formation of a State Veterinary Service would enable this to be further developed. Whether all such research should be state-controlled or left chiefly to private effort is a matter of opinion, but where public funds are being expended, some form of supervision and co-ordination appears to be desirable.

Let us now look at the work of the veterinarian in municipal or county appointments. In the first place this officer should have full control of the Diseases of Animals Acts and Orders in so far as they affect the local authority. In this he should be in the closest possible touch with the police, who are not only of the greatest help to him, but frequently a necessity in carrying them out. As these Acts and Orders are so framed as to place great responsibilities on the police, my experience shows me that when the correct attitude exists the police are only too pleased to have a veterinary officer to advise and guide them in their duties. As probably the health of the cattle is the most important factor in assuring a clean milk supply, the veterinarian is essential in the interpretation and administration of the Milk and Dairies Acts and Orders. As health is not possible without suitable housing accommodation such as light, ventilation and cubic space, there can be no doubt that the veterinary surgeon is best qualified to advise on this question, so that the veterinary officer should be in the same position in regard to animal dwellings as the medical officer is to human habitations. In this work he should be assisted by properly qualified lay assistants in districts where the number of milk producing farms warrants it. It naturally follows that the general supervision of the conditions under which milk is produced on the farms should be under the same staff, in close co-operation with the medical officer of health. This procedure is now adopted by many of our larger cities and leads both to economy in working, and greater efficiency as the dual control is dispensed with. The position in an English county is on a different plane from that of a county borough in that the control under the milk and dairies legislation is dual, the district sanitary council being responsible for the carrying out of the Milk and Dairies Order except that part of it which deals directly with the health of the cattle, the county council, with the above exception, having general supervisory powers only. It is not possible for an urban or rural council to have veterinary officials of their own, but when such officials are employed by county councils, they should arrange to work as much as possible with the local sanitary officers, as only by this means can the true spirit of the Order be achieved. In my district it has been and is my custom to inform the local medical officer or sanitary inspector of a proposed inspection of the cows in any district, and ask one or the other, usually the sanitary inspector, to accompany us on our rounds. In the smaller areas this is generally done with the greatest benefit. By working together the county veterinary officer and the local official by putting their heads together can discuss the various difficulties met with, and I think by exerting their joint influences are much more likely to impress the farmer than each one working independently. This is all of advantage in our mutual attempt to improve the conditions under which milk is produced. So long as the law remains as at present, I can see no better method, but I would like to say that I think the duties imposed by the Milk and Dairies Order should be delegated to the county councils. I say this after careful thought, not wishing to criticise the efforts of individual sanitary inspectors, for many have done most excellent work and have been most kind and helpful both to me and members of my staff, but for the following reasons. In the first place, it would lead to much greater uniformity of administration in a county, for in a county like the West Riding of Yorkshire which I represent, there are no less than 148 separate sanitary districts, and it stands to reason that each one interprets the Order in its own way, one being most exacting and particular, while another is lax and practically ignores its obligations. Nothing causes greater discontent amongst the farmers than seeing their neighbours and competitors being allowed to carry on in their own sweet way while they are compelled to carry out very considerable alterations. Secondly, it would equalise the work of the district inspectors by allotting a reasonable number of farms to each, while as at present one inspector may have five farms or even less, and another as many as hundreds, and at the same time a great deal of other work. Under such conditions it is quite impossible to ensure any uniformity of control.

I am strongly in favour of the same system of meat inspection as is now law in Scotland being applied to England. In many English cities a veterinary officer has been appointed as the meat inspector and is required to give the final judgment before the condemnation of a carcass or even a part thereof. Not in any way wishing to minimise the good work done by many meat inspectors, I do feel that the veterinary surgeon should be far more consulted than is the case to-day, and that he should not only be called in for consultation by the sanitary inspector when the butcher whose meat is in question calls in a veterinary surgeon privately to defend his interests, or when a prosecution happens to be threatened. As a profession we are not recognised under the Meat Regulations, and I hardly think this fair nor in the interests of the public. I do not know if I should have the courage to make these remarks in my present company were it not for the fact that several sanitary inspectors, themselves acting as meat

inspectors, have made the suggestion to me on more than one occasion.

The veterinary officer of to-day would be placed in very much the same position as the Egyptians who were asked to make bricks without straw, if he has no laboratory accommodation. In a well organised veterinary department, it is essential that there should be some sort of a laboratory where samples of milk and other material can be examined, and where circumstances permit, the addition to the staff of a veterinary pathologist is of the greatest benefit. The number of obscure conditions met with, both in the borough and a county service is remarkable, and as well as investigating these, the pathologist could take over the general investigation of milk samples, including the carrying out of all biological tests on milk.

The veterinary officer should, of course, give advice on the management of horses used for municipal purposes, and also in the case of corporation farms or those under county councils or other public bodies.

I fear I have already exceeded my allotted time and I would conclude by assuring you that the veterinary profession only asks for its fair due in public health administration and has no desire to usurp the legitimate functions of any other profession. It will always be willing and pleased to co-operate whole-heartedly with all public health and other officials working towards our mutual goal, namely, the prevention of disease and suffering both in man and animals.

At the conclusion of Major Rabagliati's paper the President said: "You have all heard a very simple but very instructive paper by Major Rabagliati—most complete, thorough and to the point—and it is now my very pleasant duty to call on Alderman and Sheriff Phené Neal to open the discussion. The alderman is very well-known to us in the veterinary profession; I think we usually consider him in the nature of a King Arthur amongst us—a very excellent description, I think." (Applause.)

Discussion.

Alderman and Sheriff W. Phené Neal: It is one of the greatest pleasures of public men, either Government or Municipal, and their officers, to help one another in a Conference such as this. It is also most useful because it disseminates ideas and gives food for thought for future consideration.

This year I have had an opportunity to study Mr. Rabagliati's paper which is published in full in our programme, and I am able to appreciate its value as a work on this important subject.

Every delegate, I feel sure, is greatly indebted to Mr. Rabagliati for the paper he has read to us. As a layman I am naturally at a disadvantage compared with professional men who have made the subject of this paper a life study, but the chief subject, *i.e.*, tuberculosis, is one to which I have given much thought for several years—particularly the continued high percentage of milch cows affected in spite of the fact that the Tuberculosis Order and other measures have been in force for some time. Sir John Moore, in his very able Presidential address, and on which I congratulate him, has also placed this disease foremost and both these gentlemen have not only put forward valuable ideas for thought, but in my judgment have done much more than that, as they have explained how the problem of tuberculosis in bovines can be dealt with more efficiently and with better results than have so far been attained. The importance of tuberculosis is not only that it is communicable to human beings, but that it is by far the most common disease of cattle intended for food purposes either as milk or flesh meat. I am confident that whole-time veterinary officers of the Ministry of Agriculture and local authorities will solve the question in time as I have the knowledge that they have done such good work in the past, particularly with regard to the almost complete eradication of glanders in horses and the measures taken by the slaughter policy to prevent the continued spread of foot-and-mouth disease in Great Britain. We agriculturists hope, and indeed feel, that you will eventually have the same success with regard to tuberculosis and also swine fever.

I agree that this can only be brought about by legislation and as perfect a system of control as can be devised to reduce the deaths of human beings and losses from animals affected with tuberculosis, particularly as you have an agent in tuberculin as you had in mallein for helping you to eradicate glanders.

One of the most important statements made to-day or at any other Conference, is that the veterinary profession have formulated a scheme for the eradication of bovine tuberculosis and that as a basis on which to work it has recently been approved in principle by the majority of the profession, and I strongly support the plea that the Ministries of Health and Agriculture should take council as suggested by Sir John Moore, as I agree that the matter is a State duty, first by Government enquiry and followed by Government enactments and through Government machinery.

The list of important diseases enumerated by Mr. Rabagliati and dealt with by the Ministry of Agriculture through its veterinary staff, and also veterinary officers of Local Authorities, has interested me greatly because it shows the good work the veterinary profession has done for our country. It therefore comes as a great surprise to hear that, although the Ministry of Health make regulations under the Acts dealing with milk and milk products, concerning the health and housing of cattle, and under the Meat Regulations with regard to diseased meat, there is not one member of the veterinary profession to advise the Ministry of Health in questions of animal health and disease, and that comparatively few whole-time municipal officers are appointed in England and Wales. This is a revelation to me because, as a Vice-President of this Institute and member of the Council, I know that for all the practical work on meat and milk the teachers and members of the Board of Examiners of this Institute are almost entirely composed of veterinary surgeons. I have met most of the whole-time veterinary officers at these Conferences and heard their able addresses and papers and I am surprised that the Ministry of Health and a large number of local authorities have not made similar appointments, having in mind that those already appointed by the Ministry of Agriculture, and also those in many cities and towns, have done such good work.

As a past Chairman of the Cattle Markets Committee of the Corporation of London and a member of that Committee for over 30 years, and also the Central Markets and Billingsgate Committees, I am in constant touch with diseased foodstuffs, and one of the most interesting items of information that has come before me was in the year 1919 when I read Mr. Hayhurst's annual report for that year. The Ministry of Food was in control at that time, and from several counties around cows were compulsorily sent to the abattoir at Islington, with the result that nearly six times the average amount of diseased meat was found unfit for food. Naturally I often wonder whether all the carcasses of these animals would have been condemned if the regulations of that year had not been in force. I think not.

It is for all of you, whether you are medical men, veterinary surgeons, or certified meat inspectors, to work hand in hand for the common and national good, and I have been pleased to hear at many Conferences expressions of mutual assistance among you, but I am of the opinion that to deal with the health and diseases of animals, the training and experience of a veterinary officer should be used to the fullest extent to examine, diagnose and control animals and the food derived from animals intended for human consumption.

Many of you know I have for years past taken a keen interest in this veterinary section, and advocated the adoption of many of the things recommended in the address, including the erection of public abattoirs, *ante-mortem* and *post-mortem* inspection of animals intended for food,

inspection of cows and cowsheds and efficient inspection of all animals in public markets.

To show that the City of London practices what it preaches, I desire to point out that for 50 years it has had a veterinary officer appointed at the public abattoirs at the Metropolitan Cattle Market, Islington, to examine live animals and carcasses, also at the Foreign Cattle Market, Deptford, and since 1909 the Chief Meat Inspector in the city has been a veterinary officer. At present we are building offices with a laboratory, lecture room, detention room (for doubtful meat) with unsound meat sheds for the meat inspection department at a cost of £15,000. The medical, veterinary and sanitary officers work in complete accord, there is never any question of jealousy or of disagreement.

Public Abattoir.—Since 1868 we have had public abattoirs at Islington. In 1909 we still had a number of private slaughter-houses at Aldgate, where killing of animals went on day and night. A few years ago we bought those and transferred all slaughtering to the public abattoirs.

Contagious Diseases.—In the city the veterinary work has resulted in the complete eradication of glanders and parasitic mange in horses, *e.g.*—in the year 1911 there were three cases of glanders and 285 cases of parasitic mange. For a considerable number of years there has not been a single case of either of those diseases in the City area. All animals imported into the City and Port of London are under the supervision of our veterinary officer.

Meat Inspection.—Caseous lymphadenitis has been mentioned. The City was the first Local Authority in this country to observe this disease and during 1929 approximately 13,000 imported carcasses were destroyed as unfit for human food. Our City veterinary officer has been invited to visit nearly every country from which we receive meat, in order to advise as to the best types of animals to breed and to improve the systems of meat inspection. This has resulted in entirely new staffs of meat inspectors being appointed in some countries, an augmentation in others, and in addition has encouraged research into animal disease.

Tuberculosis.—With regard to this disease, the City has always taken a keen interest in its incidence and relation to man and animals. At Islington, Mr. Hayhurst, your secretary, has ascertained that over 50 per cent. of cows killed in the abattoirs contained lesions of tuberculosis. At Smithfield during the last year, although the Public Health (Meat) Regulations require that all meat should be examined at the place of slaughter, we found it necessary to take as unfit for food 47 carcasses of beef, 1,273 carcasses of pigs, and the heads of 5,080 pig carcasses. At Aldgate over a number of years our veterinary officer found on an average :—

9·0 per cent. of Bulls
0·17 per cent. ,, Calves (under 4 months old)
33·00 per cent. ,, Cows
12·00 per cent. ,, Heifers
2·50 per cent. ,, Oxen,

contained lesions of tuberculosis and up to 8·10 per cent. of the cows with tuberculous lesions in their udders.

Since 1926, at the suggestion of our veterinary officer, and through the very kind co-operation of Dr. Stanley Griffiths and Mr. Cornell, M.R.C.V.S., of Cambridge, some very important scientific work has been done in the typing of the different bacilli contained in the tuberculous lymph glands in the heads of pig carcasses taken at Smithfield. Those research workers, to whom I desire to express our sincere thanks, have after long and careful study ascertained that approximately 66 per cent. of the lesions were caused by bacilli of the bovine type, 33 per cent. of the avain type and one per cent. of the human type. Two of the strains contained both bovine and avain types. Those figures are very interesting because they show that pigs can be infected from various sources *e.g.*

(*a*) The milk of, or grazing with, bovines.
(*b*) Their mothers.
(*c*) Eating diseased meat fed to them.
(*d*) Fowls, and, to a minor degree
(*e*) Human beings.

Hence the necessity for farmers being informed of those sources of infection in order to take the necessary precaution.

Now with regard to the more serious question of the disease in cows and its communicability to man and bovines. Dr. Hastings in a debate in the House of Commons on May 12th stated : " Every year 2,000 deaths of human beings are due to the bovine tubercle bacilli. In addition about 20,000 fresh cases in human beings occur yearly though fortunately many recover. The bovine tubercle bacilli chiefly affect children and are the cause of 46 per cent. of glandular tuberculous disease, 50 per cent. of lupus, and 66 per cent. of that terrible disease tuberculous meningitis. It is the opinion of many people that the Tuberculosis Order, though getting rid of the worst clinical cases of tuberculosis in cows, does really not do anything towards eradication. It is generally understood that 40 per cent. of cows are affected with tuberculosis, and it is considered by many people that to attempt to introduce any form of eradication would lead to a trade disorganisation and cause a very serious dimunition of our milk supply. In my opinion this is a weak argument, the subject should be dealt with on the lines urged by the medical profession with regard to cancer, that is to say, if any success is to be achieved it is necessary " to operate early " and the sooner we operate, that is begin eradication, the better. It would indeed be better to have no milk supply at all than to feed our children on diseased milk as we are doing at present. As to the cost, surely it would be better to utilise part of the enormous sums spent in trying to cure our tuberculous children in some form of eradication. This is the view taken in the U.S.A., where it is held that in cows the disease doubles its number of animals attacked in 15 years, and figures are given by the Bureau of Animal Industry showing that eradication has been effected in certain areas without much loss of milk supply. It is evident something must be done, and soon, for many owners, finding by tests that their herds are heavily affected, have resolved to do nothing, *e.g.*, Major deVine has lately stated that two owners applied to come into the eradication scheme, but after the herds were tested it was found that 47 and 44 per cent. respectively reacted, the owners therefore decided not to come into the scheme. That is only two herds ; how many similar herds must there be in the country? Again quoting the same veterinary officer he states : " The average percentage of infected milks during the years 1920 to 1929 was 7·6, and so far as the Tuberculosis Order is applicable it has apparently had no material effect in the reduction of the percentage of infected milk in Birmingham. This is, no doubt, due to the fact that when a cow is in such an advanced stage of the disease that it may be dealt with under the Order, it will have infected its neighbours in the shed long before it is clinically affected to such an extent that it can be dealt with under the Order."

Gentlemen, are we going to stand looking on at this state of affairs and do nothing? Surely not. Lately the Scottish Branch of the National Veterinary Medical Association has drafted a modified eradication scheme which has been favourably considered in some quarters, though unfavourably in others ; 't is based partly on the U.S.A. method (testing and killing out reactors) and partly on Bang's method (breeding out the disease). I submit for your consideration and discussion a method based partly on a method of eradication of unfit horses employed by your President, Sir John Moore, during the Great War. He eliminated all horses over 15 years old as unfit for further service. It is well known the highest percentage of tuberculosis is in old cows, therefore let us begin by obtaining compulsory powers in an Amendment to the Tuberculosis Order, to test with tuberculin all cows over 10 years, kill out the reactors and recommend that :—

1. All calves be separated from their dams at birth and only fed on pasteurized milk or milk from tested cows.
2. All calves should be kept in hygienic sheds free from contamination.
3. Calves should not be grazed as yearling with cows.
4. All cows should be clinically examined quarterly.
5. There should be thorough enforcement, as to

disinfection and hygienic condition of sheds, of the powers given in the Milk and Dairies Order.

6. There should be isolation and testing of all animals purchased before admitting them to herds.

By getting rid of all diseased cows over 10 years old yearly we may reduce the percentage of infected animals to such an extent that an eradication scheme on the U.S.A. lines can ere long be introduced. I hope to hear a good discussion on those proposals and that a recommendation be sent forward from this section which will show progress, and if carried into effect be of lasting benefit to all concerned.

From every point of view, I again congratulate Mr. Rabagliati on his very excellent paper on this important problem, particularly that of the tuberculous cow. He has given us so many facts and figures, the result of his careful observations, which have been of great interest and, therefore, I feel sure will result in a keen discussion from the medical and veterinary delegates.

The PRESIDENT: "I feel I cannot wait until the end of the proceedings before congratulating Alderman Phené Neal on the very excellent paper he has given us. He has cleared up many points and I am sure his paper will be of great use to us in the profession and to the community and the country at large. As I have said before, he has been very closely identified with us in the profession and is always furthering our claims. I know from him personally that he is prepared to go on and on doing the same until he is taken to a higher sphere, as it were. Now I will call on Mr. Gofton to give us the benefit of his experience. We were rather depending upon Colonel Brittlebank to give us some valuable remarks, but he has had to go back."

Mr. GOFTON, F.R.C.V.S. (Edinburgh): I must first join Sir John Moore in expressing appreciation of Alderman Neal's contribution to our discussion. I also want to congratulate Mr. Rabagliati upon the work he is doing and the very excellent organisation which, in the course of three or four years, he has been able to establish. It is with personal pleasure that I offer those congratulations because some years ago, during a period of compulsory idleness following his return from Egypt, I persuaded Mr. Rabagliati to take a junior post on the staff of my department. I did so in the hope and belief that it would open the way for Mr. Rabagliati to step into a position which was more in keeping with his qualifications and abilities. My hopes of him being appointed to such a position were soon realised and my belief in his ability to carry out the work and organisation successfully and for the benefit of the community has been amply justified by the results. I am very largely in agreement with the views expressed and I have practically no criticism to offer on what he has said. He referred in the course of his remarks to the anomalies which exist in administration both central and local. These anomalies have arisen, sometimes from one cause and sometimes from another. In some instances they have been based on errors and misconceptions in the past. In other instances I think the position has simply been that necessity has demanded that something should be done and in some cases the easiest way, possibly because it was also the cheapest way, has been chosen, without due regard to efficiency. I have a feeling, in so far as the questions relating to food control are concerned, that we are at present bordering on a phase of evolution. I think that the position of the sanitary inspector, which at the present time combines a multitude of duties, will not go on indefinitely. I believe that sanitary inspectors will, in the future, be called upon to be more highly skilled and technical individuals, and to be concerned more particularly with human environment and the conditions of human life. Arising out of that there will be a segregation of questions relating to food, and the part they will play in that direction remains to be seen. I would hesitate to give any forecast. Mr. Rabagliati has referred to the fall in the number of emaciated tuberculous cows which it has been his experience to encounter. He is of opinion that they are getting a larger number of cows in the earlier stages of the disease. But it is suggested that perhaps the fall may be in part due to the fact that the emaciated cow is being passed from his district to other districts where inspection is less regular and less efficient. I think probably the second explanation is really the true one. I doubt very much if there is really a drop in the number of cows which fall into that class. There is no person who knows better than the dairyman or the farmer which of his cows is beginning to go wrong. It is probable that these are sold earlier to other districts. As an instance of what happens sometimes I will refer to the one incident which occurred in Edinburgh. A dealer from the north of England had been visiting Edinburgh market and came to the conclusion that it would prove virgin soil for the sale of screw cows. After two or three visits he sent to the market three truck loads comprising 30 cows to be exposed for sale in the fat market. They were untrucked and put into the market to be fed and watered before sale. They had been there less than an hour when he was served with a notice giving him the option to send them to the local slaughter-houses to be killed at his own risk or to take them back to the place where they came from. His views quickly altered in regard to Edinburgh as a suitable dumping place for cows of that class. We know quite well there are outlets in all areas for this particular class of cow. If we have a cow in Edinburgh Market which is at all doubtful but has not reached the stage which permits us to interfere under the Tuberculosis Order, it is always bought to be sent to certain quarters. In regard to efforts for the reduction of the incidence of tuberculosis I would make two remarks. The first is that I want to stress the importance of housing in regard to any effort made to reduce the incidence of tuberculosis in bovines.

There are cow slums just as there are human slums, and so far as it is an important contribution to the health of the human population to remove slums and give free access to air and sunlight, so it is equally important to the bovine population. Any attempt to reduce the incidence of tuberculosis must be accompanied by improvement in the housing conditions. The second point is that any attempt to reduce the incidence of tuberculosis will fail, I think, unless we can have the whole-hearted co-operation of the owners of stock. The farmer has to do a great deal. He has to take a personal and keen interest. If he does not it is hopeless to proceed. If we can interest the farmers, sufficiently well and sufficiently keenly, I am sure progress could be made along voluntary lines. I think that the farmer is not going to be tempted to move very far if he is only to be offered something for nothing in the shape of free tuberculin testing. It has to be brought home to him that either he will lose something if he does not act or will gain something if he does act. There are two ways in which they can be influenced. In the first place, I am quite sure that a large number of farmers would be tempted to go in for clearing their herds if they were assured of a market and a price for their milk from tubercle free cows which would compensate them for the trouble and care they had taken. Farmers have told me they have taken the trouble to clear their herds and, having done so, have failed to get an adequate outlet for their milk as Grade A (T.T.) milk, and therefore would not again make the effort. I would urge local authorities to consider the milk supplies which they are providing for institutions under their control. A few years ago the principle seemed to be simply to get milk irrespective of quality. To-day there is a distinct movement on the part of local authorities to have milk from tubercle free herds which conforms to the hygienic quality laid down in the Milk (Special Designations) Order. That movement can well go further, and it is to the benefit of the community as a whole that local authorities should interest themselves and urge the supply of that kind of milk to institutions they maintain. The other way is to make the farmer realise that if he will not make an effort he will lose something. Local authorities can also play a part in this. There is at present a large scale experiment in force in Scotland in which Grade A (T.T.) milk is being used, and there is also before Parliament a Bill which it is intended to give power to education authorities to provide milk for children in the schools under their care. The view in certain high

quarters is that whilst in the first instance they might be content to accept milk whether pasteurized or of other quality, they would put a definite time limit on and then say, no milk unless from Grade A (T.T.) or certified herds. An attitude of that kind might give a material stimulus to the farmer, who would begin to realise the direction in which things were moving and that he must clear his herd or he would lose the market for the sale of his milk. Mr. Rabagliati referred to the absence of a veterinary officer at the Ministry of Health and said that the fact passed almost unnoticed and uncriticised. It is not altogether uncriticised, because during recent months there have been fired at the Minister questions from a section of the House of Commons, asking if there is such an officer at the Ministry and if not, why not. It seems that certain sections of the House intend to press for one. The position seems to be extraordinarily anomalous when you consider that the Ministry of Health administer the Milk (Special Designations) Order in respect of tuberculin tested herds and yet, so far as I can learn, there is not one individual in the Ministry who had practical experience in the application of the tuberculin test in the interpretation of its results. You cannot get the necessary knowledge by sitting in a chair in an office. The necessity for someone to be available to the Ministry, capable of interpreting and checking the results of tuberculin tests applied to herds appears to be essential, otherwise there is little use in sending to the Ministry reports or returns of tests made. (Applause.) Mr. Rabagliati referred to the need for research into various diseased conditions, among which he mentioned caseous lymphadenitis. At present I do not think it exists in the sheep stocks of this country. In Edinburgh we have over a period of years examined a number of conditions in sheep which presented a semblance of similarity to caseous lymphadenitis and we have always failed to demonstrate the specific bacillus.

Mr. G. P. Male (Reading): After reading Major Rabagliati's paper the "man in the street" will no longer be able to plead ignorance of the part already played by the veterinarian in public health and he will also get some idea of the position that the writer aspires that the veterinary profession should take up in the future. In these Congresses where all professions engaged in public health work meet to discuss the many problems with which they are confronted it is perhaps well that the work of the veterinary profession should be reviewed and the way shown to make its work more efficient. In some cases the work overlaps and certain adjustments have to be made. Where all are working for the public good there should be no difficulties in this matter. We move very slowly in this country and the services of the veterinarian are not used nearly to the same extent as in other countries throughout the world, where it is the rule to have a State Veterinary Service and where the Veterinary Colleges are built and subsidised by the State. No doubt this will come in the not distant future, but in the meantime more use should be made of the service already in existence. Major Rabagliati speaks with all the pomp and circumstance of a whole-time county official and one can forgive his pride when he surveys the vast county of Yorkshire and the work he has done there, but I fear he forgets the patient, steady work which has been and is being carried out by the part time veterinary inspectors in their various towns and county areas. That more has not been achieved by these officials is not their fault but lies at the door of the powers that be and the stringency of the financial situation. I am not one of those who think that no public health work can be done except by whole-time officials. If local authorities decide properly to administer the Milk and Dairies Act and Orders, then the existing veterinary service will be only too ready and willing to carry out the duties, as they are already doing with success.

The statistics supplied by the essayist are very illuminating and show the benefits to be derived from a periodical inspection of dairy cows and these could be multiplied by others carrying out similar work. Unfortunately, these orders in this respect are permissive and the question of expense deters many local authorities adopting them. To these I would suggest the necessity of taking frequent samples of milk for biological examination. If tubercle bacilli are then found an inspection can be made of the cows and the offending animal dealt with under the Tuberculosis Order.

Those cows giving tuberculous bacilli in the milk are the dangers to human life and must be sought for without further delay. The Milk and Dairies Act makes provision for such samples to be taken and the public should insist that this be done. This would result in an immediate fall in tuberculous milk and the incidence of bovine tuberculosis in the human subject.

The regulations under the Milk and Dairies Act and the Tuberculosis Order require revision, as there is a good deal of overlapping; for example, provision is made in the Act for compensation to be given to producers when milk is not allowed to be used by order of the local authority, *i.e.*, when milk samples are being examined which are subsequently not found to be harmful. When the cows are inspected or samples of milk taken from any suspicious cases of tuberculosis of the udder and the Tuberculosis Order is put in force, no provision is made under that Order for compensation to be given during the period, usually six weeks, while the sample is being examined. If it is not tuberculosis the farmer is sometimes involved in considerable loss.

There is no doubt, I think, as the essayist suggests, that the Ministry of Health would be considerably strengthened by the addition of members of the veterinary profession on the staff, or at any rate that an advisory panel of veterinarians should be available for consultation purposes on matters relating to the health and housing of cows, the inspection of meat, and the administration of acts and orders relating to milk and meat. It would help the members of our profession engaged in this work, would give confidence to farmers, dairymen, butchers and others interested, and I am sure would be welcomed by members of our sister profession engaged in public health duties.

The big question of eliminating tuberculosis from our herds must sooner or later be tackled and a start might be made in certain selected areas according to the plan carefully worked out by Scottish veterinarians on somewhat similar lines to the scheme at present being carried out with success in America and Canada. There would be a gradual elimination of tuberculous animals in small areas at first and with the present over-production of milk in the country it would not cause any shortage of that very necessary food.

These accredited areas could be gradually enlarged until they embraced whole counties or groups of counties and finally the whole country.

But whether or no this scheme is adopted, a regular inspection of all dairy herds should be made compulsory, not only as a safeguard against infection from tuberculosis, but from other diseased conditions, such as mastitis, which are unfortunately becoming more common and are a grave source of danger to the milk supply.

Mr. W. Jackson Young (Newcastle-upon-Tyne): During the past 30 years the veterinary profession has been asking to receive adequate recognition in matters connected with Public Health. In his course of training the veterinary student receives very full and practical instruction in zoology, botany, chemistry, physics, pathology, bacteriology, toxicology, hygiene, epizootiology and forensic medicine. Many students after obtaining the M.R.C.V.S. diploma (which is a very valuable qualification) proceed to post-graduate study and submit themselves to examination at considerable expense. The Universities of Liverpool and Manchester award post-graduate diplomas and the Royal College of Veterinary Surgeons also awards a diploma in Veterinary State Medicine to graduates who have undergone courses of advanced instruction and passed the far from easy examinations. Those who have not had such ante- and post-graduate training have great difficulty in realising the amount of knowledge that is imparted and the standard required before an examination can be successfully passed.

For 21 years I have been a whole-time veterinary officer

and have often been informed that it does not require much mental ballast to hold such office. Those of us who are actively engaged in whole-time veterinary service know full well the lack of support furnished to us by public bodies, practitioners, magistrates and legislators.

In connection with the Diseases of Animals Acts and Orders made thereunder, I can personally state that I receive whole-hearted assistance from all ranks of police officers. The police realise that the whole-time veterinary officer is one who not only is expert on purely veterinary matters but is fully conversant with administrative details and problems. Of all public servants, I find the police most willing to afford active assistance. This may be due in a very great measure to the good discipline existing in every constabulary and to the fact that there is no overlapping of duties. Overlapping in official duties requires to be strenuously avoided. But faulty and out-of-date legislation makes such possible and friction is inevitable.

In a small country such as ours, one often considers why there are so many ministries, local authorities, urban and rural and parish councils. There is a pressing need for the formation of one department that will deal with animals, live and dead, and the food supply of the population. Branches or divisions within the department would be necessary under the control of technical experts.

I agree with the essayist that care would require to be taken with the relationship between the department and local government. Difficulties exist to be overcome, however, and I am confident that with experience there would be smooth running and no friction. In this country the services of veterinary surgeons are not sufficiently utilised in connection with public health matters and problems connected with the live stock industry.

By his training, the veterinary surgeon is fully qualified to inspect and pass decisions on flesh foods and his training in chemistry and other sciences also enables him to inspect other foodstuffs. He has had to acquire a very full knowledge concerning the parasites infesting foodstuffs and his intensive training in bacteriology places him on terra firma when faced with problems connected with the decomposition of various articles of food.

Public slaughterhouses are necessary, and in these accurate records should be kept concerning the source of diseased carcasses and it should be enacted that the information gathered be forwarded to the district of origin, if in this country.

Well-equipped knackeries are essential for the welfare of this country. To such places, periodic visits of veterinary officials are desirable in order to see that there is no evasion of orders. The veterinary surgeon is the most proficient official for conducting such enquiries.

The regular inspection of dairy cattle throughout Great Britain is essential.

The examination of cows competing in clean milk contests, by a veterinary surgeon, should be obligatory and no prize should be awarded in such competitions if the milk yielded contains any pathogenic organisms. A list of such would require to be drawn up by medical officers of health and veterinary surgeons.

At least one veterinary official should be in attendance at all meetings of Public Health and Diseases of Animals Committees, Town and County Councils. Councillors frequently ask questions at such meetings which can only be satisfactorily answered by veterinary surgeons.

The veterinary officer, as I know him, has no desire to work apart from others engaged in public health work. He knows that it is detrimental to make the attempt and he prefers to be one of a team of experts and give and receive due recognition. The veterinary profession has made its wants known and, during the past 30 years, many of its requisitions have been given careful consideration and benefits to food consumers and stockowners have followed.

The common seal of the Royal College of Veterinary Surgeons bears the latin motto—*Vis unita fortior*—strength is made stronger by union. I have had ample experience of the benefits of various classes and grades of public health workers actively co-operating in fighting disease and insanitary conditions.

There is room for many technical workers in the public health service and our governing bodies and legislators should see to it that the services of such are used to the greatest advantage.

Medical officers of health and veterinary officers have very much in common. Their training embraces the same subjects, but there are differences. For example, in biology, the veterinary student studies conditions of economic importance, and in anatomy, pathology and bacteriology he has more animals and their diseases and ailments to study. In hygiene and dietetics he has the habitations and foodstuffs of more species to consider and in forensic medicine he meets with problems connected with animals that are outwith the province of medical practitioners.

Notwithstanding the difference in the training, the object aimed at is the same, *viz.*, a better world for man and beast.

In conclusion, I consider the essayist has done good service by drawing the attention of the numerous delegates to this important congress to the fact that the veterinary profession is equipped to take its legitimate place in the public health programme of any country and is prepared to co-operate actively in the schemes necessary for the welfare of man and his dumb friends.

Dr. W. G. Savage (M.O.H., Somerset): I really came here this morning to hear the leaders of the veterinary profession on this very important question. I think we have been too much in agreement, and I think I can best help in the discussion by introducing a note of disagreement. I am sure it always does good. I am not altogether in agreement with you on this question of tuberculosis. On first points we are in agreement. Sir John Moore quoted statistics from my book which were carefully checked before being put in the book. I thoroughly agree as to the vast amount of suffering caused by tuberculosis. We are in agreement as to the need for action, and I thoroughly agree that we cannot help to do anything without the cordial and united help of the veterinary profession. Where, however, we disagree somewhat, is that I do not think you in the veterinary profession as a whole understand altogether our reluctance to certain measures which you advocate. I particularly refer to the veterinary inspection of dairy cattle as a thing by itself. Frankly, I do not—I am disagreeing, probably, with most of the men in this room—recommend that by itself as a measure worth doing. It would cost a good deal of money and what are you going to get out of it? In the county of Somerset there are 6,500 dairy herds and you could not have a proper system of inspection under two shillings a head, which would cost Somerset between £12,000 and £13,000 a year, based on a quarterly inspection. Nothing less than a quarterly inspection is worth doing. What are you going to get out of it? You are saving a certain amount of infection of milk supplies by tubercle bacilli, but doing nothing to reduce the incidence of bovine tuberculosis as such. I listened carefully for Mr. Rabagliati to raise it, but he mentioned nothing about it. We have other methods. You have to realise that human tuberculosis and bovine incidence is going down. All tuberculosis is going down, but bovine is going down fastest and you can pasteurize your milk. Unless you can come before us with a scheme which will do more than merely save a few children from being infected you are only giving us something which we can do cheaper in other ways. Having said that, I want to make it clear that I am not in favour of a routine inspection, only, but I am in favour of it only if combined with other measures. We have to get down to the problem, and that I regard as the reduction of bovine tuberculosis. To do that your routine inspections must be something more. Let us get a proper scheme together in which you have to get the farmers interested. Is it worth the country spending a quarter of a million on routine inspections unless the farming industry does its share in the business? It is useless having a routine inspection without the power to tell the farmer he must take them out. He should keep a list of every cow so that you know where an animal, of which you were a little suspicious, has gone to. If you as a profession will work out a scheme of eradication of bovine tuberculosis combined with inspection on the human side I am with you all the way. You must remember that at the moment there is a

tremendous struggle between pasteurizers and the others. If we are going to leave pasteurization high and dry you must have a scheme which has not got loopholes—which I have not heard put forward by the veterinary profession. I did want to put forward the view that a number of us on the medical side have the utmost sympathy with you but are not prepared to support veterinary inspection alone unless you combine it with other machinery.

Dr. Bruce Lowe (Welsh Board of Health): I do want to remove an erroneous impression which has possibly been created by previous speakers, especially in the opening remarks. Surprise was expressed that the Ministry had no veterinary officers, and it has been suggested that when we get these reports upon tuberculin-tested cattle we are unable to interpret them. So far from this being the case I might mention that only a week or two ago the officers in the Ministry were so dissatisfied with these reports from veterinary surgeons that we have arranged recently for Professor Buxton to give courses of instructions to officers on how to carry out these tests. (Laughter.) Although we have no veterinary surgeons the Ministry of Health is in close touch with the Ministry of Agriculture and their officers, and also with the Medical Research Council, which has issued valuable reports on tuberculosis tests. I want to assure this Congress that the Ministry of Health are not apathetic to this problem. We are really studying this problem, although perhaps you do not hear much about us.

Dr. Fairer (M.O.H., Leicestershire C.C.): I come from an agricultural county with 50,000 cows—as many as school-children, they tell me. I put my back into learning a bit about tuberculosis, and worked with the farmer and the veterinary surgeon. The farmer as a whole is a decent chap—a bit behind and thick in the head, perhaps—but he is a decent fellow; the veterinarians I have met are decent fellows; the M.O.s are all right, and it is a question of combining the lot.

We have to teach the farmer, but we M.O.H.'s have a lot to learn and when it comes to tuberculosis we want specialist officers. It is a specialist's job. I am in favour of a full-time veterinary officer with a laboratory behind him and the county medical officer of health who endeavours, in his small and humble way, to work with him.

Mr. John King Shaw, m.r.c.v.s., Wallasey: It is just over two years ago since I was appointed whole-time veterinary officer at Wallasey, my duties comprising the sole control of the milk, meat, and food supplies.

I particularly agree with Dr. Savage and Dr. Fairer in their remarks with reference to the clinical examination of cattle for bovine tuberculosis, as the more I meet with cases of the disease the more I realise I know very little about it. I do not think that routine clinical inspection is of any very great value in eliminating tuberculosis-infected milk. A recent case that I have had may, perhaps, help to illustrate the point. A farmer was sending Grade A milk into the borough and for some time past I have been endeavouring to persuade him to produce tuberculin tested milk. To this end I offered to test his cows free of charge, to get him going. He finally agreed to let me test half of his herd, amongst which were some of his best milkers. The result of this test showed that 50 per cent. were reactors, 15 per cent. gave a doubtful reaction, whereas there were only 35 per cent. which I was able to pass as being free from tuberculosis.

A short time ago, one of my assistants detained for my inspection a rather small but well-fed calf. I found this animal affected with generalised tuberculosis. On tracing it back through the auction I found that the calf had come from a farm within my own area. I examined the herd at this farm, which is mainly composed of good young stock. The mother of the calf was in very good condition and showed no clinical evidence of tuberculosis whatever, this particular calf being her third. Microscopical examination of the milk for tubercle bacilli was negative. I did not feel justified in awaiting the result of a biological test, and slaughtered the cow the next day under the Tuberculosis Order. *Post-mortem* examination revealed advanced lesions in the lungs, on the pleura, liver and mesentery, and ulceration of the intestines and uterus. Although there was no definite macroscopic lesion in the udder, in all probability this cow would be passing number of virulent bacilli in the milk even if not at that moment then at an early date.

One speaker referred to the supply of "Tuberculin Tested Milk" to schools. In Wallasey we have recently introduced the National Milk Publicity Council scheme, *viz.*, one-third pint of milk for 1d. I did my utmost to get tuberculin tested milk used, but there was a great difficulty as to what could be done with the milk at week ends and during holiday periods, so that we were compelled to fall back on pasteurized.

Since I have been in Wallasey, I am pleased to say that the whole of the milk supply to the Corporation Hospitals and Welfare Centres is now tuberculin tested milk only, and I am doing my best to get the voluntary hospitals to take up this grade of milk.

Mr. Tweed (Sheffield): I have only a very small point to make and it is in reference to tuberculosis. I feel that Major Rabagliati has this morning given us a very fine paper—one of the best to which I have listened. I would like to ask your consideration of the matter of the Tuberculosis Order. I feel we have an Order which was firstly an agricultural policy, and those of us who are responsible for meat inspection are conscious of the amount of waste there still is from this disease alone. I think we are ready for a further agricultural policy in the matter of this Order, and I propose to offer one suggestion. It has been proposed in Scotland that tubercle-free areas be made, and to that many of us do not agree, because first of all you have to consider the enormous expense that this will cause if the Tuberculosis Order applies to the reactors which are tested. I feel there should be some such line as this: in conjunction with the Milk and Dairies (Special Designation Order, those people who on their own account are willing to free their herds from tuberculosis, should be assisted in some manner. How it could be accomplished I do not know, except that if a man had a herd tested for tuberculosis and applied for a licence his reactors should be slaughtered for him and he be paid compensation for them. That would prevent the cows getting on to the open market again and would encourage the production of this milk. Then, I think, we should gradually get the number of free herds increased. I do not agree that cows over a certain age should be slaughtered, or anything of that sort. I firmly believe that by co-operation with the farmers and with the help of the Government by paying compensation for the reactors, we shall attain tubercle-free milk in the future.

The Reply.

Major Rabagliati said that as the discussion on his paper had been so prolonged, he could only attempt to answer very briefly some of the more important points raised.

Alderman Phené Neal had made many useful suggestions on the question of the eradication of tuberculosis, but they would have to be most carefully examined to see just how far they could be employed in practice. The question of slaughtering all reacting cows over ten years of age had been suggested previously by Mr. Hugh Begg, of Lanarkshire.

Mr. Gofton had suggested that the fall in the number of tuberculous emaciated cows mentioned in the West Riding of Yorkshire might be more due to their disposal by farmers rather than to their being taken under the Tuberculosis Order at an earlier date. The speaker agreed that this might be true to some extent and said that there were certain markets known to be the dumping ground for doubtful cattle in areas where inspection was not so strict as in the West Riding. He also referred to certain so-called "short-knifed" butchers who were only too ready to remove cattle that were not thriving. He agreed that better accommodation for the rearing of calves was an essential part of any tuberculosis eradication scheme.

The conditions under which many calves were housed in the winter was a disgrace and most deplorable. Mr. Gofton had spoken of the distribution of milk to school children. In the West Riding a very large quantity was issued to school children in third of a pint bottles; some "Certified," a good deal "Grade A" and more still ordinary milk. In the case of ordinary milk, the farms were always visited by a member of the county medical officer's staff and also by one of the veterinary officers to see that the conditions were suitable before any contract was made, and these conditions had also to be kept up. He believed that if the licensing of "Certified" and "Grade A" herds were carried out by the County Council instead of by the Ministry of Health a good deal more tubercle-free milk would be used in the county. He knew of a case where a farmer with a fairly large herd wished to go in for "certified" milk and approached the Ministry for a licence. The general conditions on the farm were excellent, but the veterinary surgeon who carried out the tuberculin test and who was approved of by the Ministry had never done the double-intradermal test previously. He, however, carried out this test, found a certain number of reactors and after removing these, the licence was granted in a few days. The speaker could only ask "was this right?" This, he thought, answered the point raised by Dr. Bruce Low, of the Ministry of Health.

He was sorry that Mr. Male had brought up the question of whole and part-time veterinary inspectors. He (the speaker) had tried to avoid it as far as possible in his paper, but admitted that he might subconsciously have favoured the whole-time man. He would like to say just two things; the first being that in his experience there was so much work to be done in a district such as he worked in, and that as it took the whole time and energies of both himself and his staff, he did not see how a busy practitioner could possibly do it in addition to his own work, and secondly, he felt sure that the whole-time official was the better able to get into touch with the sanitary officials who carried out the milk regulations. It was not a question of ability, but as the work was specialised, it stood to reason that the inspector doing nothing else must become more efficient. On the question of compensation to farmers for milk stopped from cows suspected of tuberculosis, undoubtedly there were hard cases where owners ought to receive compensation for loss of milk and he had heard of the whole milk from a farm being prohibited from sale when tubercle bacilli had been demonstrated in a bulk sample of milk, but he looked on this as most unfair and unnecessary. The greatest possible care should be taken before the whole milk was stopped from any cow just because for some reason or another the milk was undergoing an examination, and only when reasonable suspicion was present was it justifiable.

Mr. Jackson Young had raised the point of clean milk competitions and the speaker agreed that all cows in such tests should be submitted to veterinary examination. He had found a cow with a badly tuberculous udder on a farm competing in a competition.

He was glad to have heard Dr. Savage's remarks but would point out that neither he (the speaker) nor any member of the veterinary profession considered routine veterinary inspection of dairy cows as a thing by itself, as had been suggested. It was merely one plank on the general platform of dealing with tuberculosis. Regular inspection was one of the best means of interesting and educating farmers on the subject and he agreed with other speakers that it was absolutely essential to gain their co-operation.

Councillor Whittle, of Leicester, had raised a most important point in suggesting that all reactors should be branded. It was not nearly so simple a question as appeared on the surface, but the speaker admitted that at first sight it looked as if it ought to be done. The question had been discussed recently at many veterinary meetings and the concensus of opinion was that such branding was likely to do more harm to tuberculin testing than good, as no dealer would be likely to have his cows tested if the reactors were subsequently branded. Then the point arose as to who should be permitted to brand such a cow if branding was practised. He pointed out that a reacting cow was no more dangerous after the test than before.

Mr. Tweed had suggested higher compensation for cattle slaughtered under a general eradication scheme than was permissible under the Tuberculosis Order. The Scottish scheme already referred to, suggested that a reasonable amount should be paid to owners of all animals slaughtered under it.

He regretted that he had answered the questions so cursorily and thanked the audience for the way they had received his paper.

Resolutions.

The Chairman: I want Alderman and Sheriff Phené Neal to propose a resolution which he has in front of him.

Alderman Phené Neal: The resolution I have to propose is as follows:—"In view of the serious loss to the live stock agricultural industry occasioned by bovine tuberculosis, and the grave menace to public health from tuberculosis of bovine origin, the section of Veterinary Hygiene recommends to the Council of the Royal Sanitary Institute that representation should be made to government, in the Ministries of Agriculture and of Health, on the urgent necessity for a strict and complete inquiry by a Royal Commission into the prevalence of this and allied diseases in our live stock, and the economic losses caused thereby; also a consideration of the means whereby the reduction and eradication of these diseases may be best effected." It needs no words of mine to recommend it. If we are really in earnest we should willingly carry this.

The Chairman: A few evenings ago I met Lord Moynihan and he asked me for particulars of how bovine tuberculosis stood. The matter has been brought up in the House of Commons by Dr. Somerville Hastings, and I asked Lord Moynihan to come to the meetings. He promised to try to do so, but on Sunday I had the following letter from him which is illuminating. [The Chairman here read Lord Moynihan's communication.] I shall consider it my duty to supply Lord Moynihan with all the information we possibly can. I am very sorry he cannot come, because he is a great power in the land. I read the letter to support the recommendation which Alderman Phené Neal has proposed.

Mr. Gofton: I formally second.

The Chairman: I should like to take a show of hands from the meeting as to the necessity and advisability of this recommendation going forward to the Council.

The recommendation was carried by 64 votes to 1.

The Chairman: I also have another resolution re-affirming one which has previously been put forward by Alderman Neal. It is "That in the interests of public health no satisfactory improvement can be expected in the inspection of meat unless the Ministry of Health take the necessary steps to abolish all private slaughter-houses in Great Britain and Northern Ireland, and that, unless fully qualified persons well versed in meat inspection are appointed to carry out the efficient inspection of all animals slaughtered for human consumption, the inhabitants of this country will continue to consume considerable quantities of diseased, unsound and unwholesome food."

"We urge that *ante-mortem* and *post-mortem* inspections should in all cases be made, and recommend that the Council of the Institute make representations to the Ministry of Health."

Alderman Phené Neal: I think the resolution was

originally proposed at our meeting at Newcastle, and since that year we have confirmed it year by year, and I hope we shall to-day.

Mr. Coleman: I formally second.

Mr. Gofton: May I ask that there should be added "and the Department of Health for Scotland?"

Alderman Neal: Yes, thank you.

The resolution was carried by 62 votes to *nil*.

Councillor Whittle (Leicestershire County Council): I rise to urge you to recommend to all local authorities of any importance the necessity of a full-time veterinary officer. I speak not only as a representative of the city of Leicester, but also as a large milk producer in the county, and I can assure this meeting that farmers' difficulties are very numerous from the point of view of clean milk production. We are, as Dr. Fairer pointed out, one of the largest milk producing counties in this country, and I should think Leicestershire probably provides the majority of the dairy cows distributed over England. We have also, probably, some of the largest dairy cow dealers in this country. We have a few tuberculin-tested, milk-producing farms, chiefly in the hands of wealthy manufacturers and public bodies. It is my duty and privilege to visit these particular dealers to buy cows, not only for myself, but for some of the public institutions which I help to control and represent. It is our practice to take with us a veterinary surgeon and choose probably 20 cows which are to be delivered to these various institutions, subject to their passing the tuberculin test. I have very often been disappointed at finding that some of the best of the cows chosen have been very bad reactors, and I would like to put this point to the veterinary profession. I sometimes wonder whether it would not be advisable for a prominent and distinguishing mark to be placed upon the reactors. I say that for this reason—very often I have seen some of the worst of the reactors sold at these dealers' premises to the less fortunate farmers, and I have felt in a somewhat invidious position.

Vote of Thanks.—Mr. Gofton: I rise to propose a vote of thanks to Mr. Rabagliati, particularly for providing us with such excellent material for discussion.

Mr. Eaton Jones (Liverpool): I should like to second that and I hope to know more of Mr. Rabagliati in the future.

The Chairman: I would only like to add my own opinion of the value of his paper and the excellent wind-up to the whole of to-day's proceedings that he has given us.

The motion was carried with applause.

(To be continued.)

Tenure of Health Appointments in Scotland.

On July 29th Mr. Johnston, in reply to Mr. Marcus, issued a statement about officers of county and town councils in Scotland who are not removable from office except by or with the consent of the court or a Government department. These officers include medical officers of health, sanitary inspectors, medical practitioners in the Highlands and Islands appointed by the county council for the purposes of the duties of the council as public assistance authority, medical officers of poor houses, medical superintendents of sanatoriums, public analysts, veterinary inspectors, and medical superintendents of certified institutions for mental defectives.

Reports.

[The Annual Reports of the Civil Veterinary Department, Bengal, and Bengal Veterinary College for 1928-29.

Contagious disease was less rife than usual, but deaths from hæmorrhagic septicæmia were more numerous than in the previous year and over 8,000 head of cattle died from rinderpest. With a view to extending the system of control by the serum simultaneous method, a free demonstration was organised and it is hoped that this will prove valuable. There was an increase in the number of animals inoculated against contagious disease generally. A reduction in the number of veterinary hospitals is recorded. Local bodies in Bengal appear to be non-progressive in this connection, but is it pleasing to relate that private donors have assisted in some instances. Propaganda tours, with the aid of a demonstration train carrying a cinema equipment, were organised, and the Director is desirous of extending the scheme by fitting up a steamboat for the river districts.

The work of the department is handicapped by shortage of superior staff. The services of a research officer are urgently required.

The Veterinary College at Calcutta receives students from many parts of India and also from abroad. There are more applications for admission than can be accepted, and it is noteworthy that the entrants from Bangal are increasing in number. The Government of Bengal are disappointed to note that the number of district board stipends compares unfavourably with those of other Provinces.

The good work done in the Raymond Research Laboratory receives commendation and the work of Messrs. Kerr and Davis in the districts, and Messrs. MacGregor and Davis at the College is appreciatively acknowledged by the Government.

[Annual Report of the Civil Veterinary Department, United Provinces, India, for 1928-29.]

The report is written by Captain Priston, the officiating Director, and includes an excellent map and two photographs. The establishment of officers consists of a Director (Captain Hickey), two Superintendents and three Deputy Superintendents.

The Government of the United Provinces confine their remarks to the statement that they have read the report with interest and to an expression of thanks to the officers of the department for the work done throughout the year. In his introduction to the report the officiating Director justifiably draws attention to the amount of work performed with the small personnel (209) and points out that, if the recommendations of the Royal Commission on Agriculture are to have effect, the difficulty of obtaining suitable recruits must be overcome and increased expenditure must be faced.

The recommendations of the Commission involve the recruitment of over 1,000 more veterinary assistant surgeons. There is no Veterinary College in the Province and it appears that only three stipendiary students a year are sent to the Bengal Veterinary College.

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Mortality from cattle disease was considerably less than in the previous year and it is suggested that this is due to the fact that owners are beginning to appreciate the advantages of preventive inoculation. A beginning has been made with the method of serum simultaneous inoculation against rinderpest. There was an increase of five in the number of veterinary hospitals at work, but more are badly needed. The apathy of district boards in this connection is not conducive to expansion.

Experimental and research work was conducted at the three laboratories in the Province. Intravenous injections of Bayer 205 and tartar emetic gave good results in the treatment of " Bursati."

Satisfactory progress is reported with propaganda in the form of lectures and demonstrations and the distribution of leaflets, but the department does not appear to possess lantern slides or cinematograph films.

It is clear from the report that there is much scope for progress when the necessary funds can be provided.

[Annual Administration Report of the Army Veterinary Service in India, for 1928-29.]

The report is mainly statistical, with a number of tables containing a wealth of detail which, though doubtless useful for record in the office of the Director of Veterinary Services, appears to be somewhat redundant in a printed publication.

The average strength of horses, mules, cattle and camels showed a slight decrease in each class and the number of admissions for disease was also less than in the previous year.

Vaccination against contagious abortion in both cattle and donkeys appears to have produced successful results.

There was a severe outbreak of contagious pleuro-pneumonia at the Mona Remount Depôt and arrangements are being made with the Imperial Institute of Veterinary Research at Muktesar to prepare a vaccine for trial.

Strangles was prevalent at the Remount Depôts of Mona and Sargodha and the proportion of serious cases was high. Control of this disease by the use of vaccines and sera has not hitherto led to any striking success, but the system of control adopted at Mona, termed " paddock dispersion," combined with methods of segregation, has given good results.

A pleasing feature of the report is the success obtained from the treatment of surra in camels and equines with Bayer 205.

The Director records his appreciation of the services rendered by Dr. Edwards and the staff of the Imperial Institute of Veterinary Research in connection with the prevention and control of contagious disease. Incidentally, it does not appear that the Military Department provides any grant of money to the Institute.

In the United Kingdom the consumption of fowls is less than one per head per annum; the U.S.A. consumes three birds per head per annum; but in Canada every good Canadian eats 7½ birds. The salient matter for home producers, however, is that this country imports £20,000,000 worth of eggs annually.—*North British Agriculturist.*

Abstract.

[Studies in Lactation, I: Variations in some Chemical and Physical Properties of the Milk from Individual Quarters of a Cow. E. C. V. Mattick, M.Sc., Ph.D., and H. S. Hallett, National Institute for Research in Dairying, University of Reading.]

Analyses of the milk from the separate quarters of the udder of a cow were made, at intervals, throughout her lactation period of 304 days. The cow selected was four years old and calved on December 29th, 1924, with her second calf. She yielded during the period 7,389 lbs. of milk with an average fat percentage of 3·66.

The first samples for analysis were taken on January 2nd, 1925, and thereafter, at intervals, until November 5th, 1925.

As the milk of a cow varies at different stages of her lactation, the experiment was divided into three periods:—

(i) January 2nd—January 30th, when, so soon after calving, there might be some abnormality in the milk.

(ii) February 24th—August 25th. Normal lactation.

(iii) September 17th—November 5th. Drying off period.

At the commencement of the experiment the milk from all four quarters was normal to the brom-cresol purple test and remained so throughout until the drying-off period, except on three occasions from a single quarter, when only slight and transitory indications of alkalinity were shown.

Precautions were taken to insure that no disturbing causes should influence the milk yield.

The following points were investigated:—

(1) The yield.
(2) The titratable acidity.
(3) The true acidity, as determined by the hydrogen-ion concentration.
(4) The time of coagulation with rennet.
(5) The total nitrogen.
(6) The casein nitrogen.
(7) The amount of butterfat.
(8) The total solids not fat.
(9) The ash.

(1) *The Yield.*

Period I.—The two hind quarters gave double the quantity of milk of the two fore quarters; the left fore quarter gave the lowest yield, except on one occasion when it gave an equal quantity with the right fore.

Period II.—The two fore quarters gave only two-thirds of the amount given by the hind quarters. The morning yield of the hind quarters was about double that from the fore quarters, until the beginning of April, after which the quantities from all four quarters were more uniform.

The evening yield of the two hind quarters was higher than that from the two fore quarters until June.

The left fore quarter was consistently the lowest throughout the period; out of 24 samples, only five times in the morning and once in the evening did the yield of this quarter equal that of any of the others. On two of these occasions it was slightly higher than one or more of the other quarters; this occurred from June onwards, when the total yield was falling.

Period III.—The two fore quarters gave less than the two hind quarters.

(2) *The titratable acidity.*—This decreased in all quarters as lactation advanced.

Small but significant differences were noticed in individual quarters. The increased alkalinity in the milk may be correlated with the decreased yields.

(3) *The true acidity.*—As lactation advanced the differences between the pH of the milk from the hind and fore quarters became greater.

Evidently changes affecting the pH may take place in any one quarter only.

(4) Time of coagulation with rennet. As the yield diminished the rennet test became slower.

Differences between individual quarters were noticed, being sometimes nearly two minutes.

These differences are correlated with the differences in the titratable acidity.

(5) *Total nitrogen* and (6) *Casein nitrogen.*—Differences in the total and casein nitrogen in the milk of individual quarters were definite, although small.

(7) *Amount of butterfat.*—The butterfat results are striking, the least difference between individual quarters being 0·05 per cent. and the greatest 2·60 per cent. As the total milk yield diminished the percentage of butterfat went up.

The percentage of butterfat was higher in the two fore quarters which gave the lower yield of milk.

At the morning milkings the percentage of butterfat in the milk from the left fore quarter was up to or over 3 per cent. on 6 out of 11 occasions, and that from the right fore quarter on five out of twelve, whereas neither of the hind quarters reached this standard on more than one occasion out of 12, while the only samples which were below this value in the evening milk were one from each hind quarter.

(8) *The total solids—not fat—and* (9) *the ash.*—Only slight differences in the values of these were found in separate quarters.

" On the whole, the properties of the milk from the two fore quarters seem to be similar, and also those of that from the two hind quarters, although there are distinct differences between the milk from the fore and hind quarters. On occasions, strikingly different values were obtained for the milk from any one quarter, which seemed to bear no relationship to the values for the remaining three.

A physiological explanation of such results in needed."

Live Stock Changes.

The live stock figures reflect accurately the values of the different classes of animals to their owners. The reductions in cattle and pigs are not heavy and may mean nothing more significant than the normal fluctuations in stocking arrangements. It is not satisfactory when the changes are consistently in a downward direction, although when agricultural land is steadily being turned to other uses in appreciable areas falling figures are a natural consequence. The failure of pigs to recover any of the ground lost in the preceding year marks the measure of the losses incurred before the heavy decrease shown in 1929. The advance in the total of sheep is truly indicative of the vital importance of this class of stock in the past few years. The significant fact is the increase in the number of ewes. The diminution in horses is not surprising in view of the contraction in the area of cultivated land and the increasing use of tractors and labour-saving contrivances.—*The Times.*

From The Veterinarian,

June, 1830.

Of the Edinburgh Veterinary School, Etc.

A letter addressed to Mr. J. Turner, by Mr. J. Castley.
On the March for Ireland, April 20th, 1830.

(*Continued from page* 758.)

Before quitting Scotland, however, I wish to say something of the Edinburgh Veterinary School. Dr. Dick certainly deserves great credit for having established, in the northern capital, a course of lectures—in short, a school where he teaches the anatomy and diseases not only of the horse and the ox, but the rest of the inferior animals most useful to man. And he has the more merit in this undertaking, as, with the exception of the Highland Society, he appears to have received but little assistance from either the *great or the learned* of this " first city in the world for arts "—this modern Athens—this great emporium, as it has been hitherto called, of *medical* science. We are apt, my dear sir, to entertain a somewhat too elevated notion of the importance of our profession; and because Vegetius has said "*Ars veterinaria post medicinam secunda est,*" to flatter ourselves, that in this enlightened age, the nineteenth century, it ought to rank rather high. But whatever consideration we may think our art entitled to, it is quite evident from what we see here, and it is humiliating to observe, that it not only falls far short of the estimate of many who have embarked in it, but that it absolutely seems to sink beneath the dignity of collegiate science. There is no room for Mr. Dick's chair within the walls of the great, the proud University of Edinburgh. The elder sister appears to disown the relationship, or, secretly ashamed of the Cinderella, scarcely acknowledges the connection.

Here, then, even at the very headquarters of medicine, veterinary surgery may be said to stand entirely upon its own bottom; and it has to be tried by the measure of its own utility. It has not been taken in tow by the elder science—it has not experienced the fostering care of academical honours—it lacks the polish and advantage of a gown—it presents rather a rough exterior, but still it seems to thrive. One could wish to see Mr. Dick's lecture-room look somewhat less like the appendage of a forge; but then he never has to lecture to " empty benches." He has a very considerable and yearly increasing class. The Edinburgh school is entirely of his own creation; and I am happy to see that he is likely to reap the fruits of his great perseverance, his zeal, and his talents. In the session just past there were young men not only from many parts of Scotland and the borders, but also from the northern districts of England, and even Yorkshire, attending his course. Veterinary medicine may, therefore, be said, notwithstanding all the disadvantages it has laboured under, to have taken root in the northern metropolis; and I know of nothing that is likely to check its growth, except, perhaps, the introduction and general use of *steam carriages* amongst this most calculating of all the calculating people of the British isles.

I have said I could wish to see Mr. Dick's lecture-room savour somewhat less of the forge; and I am sure he will excuse what I say, as it is all intended in fair candour and friendship. But I think if he were to attach a little more importance to external appearance, to attend a little more to effect, it would give the thing greater weight and credit in the public eye.

You may fancy to yourself a room of no very great dimensions in an old and apparently long untenanted house

in Clyde Street. You enter it from the street door, and are immediately struck with the delightful confusion which seems to reign within. Skeletons of all descriptions " from a child's shoe to a jack-boot "—from a horse to an ape, not ranged in " regular order all of a row," but standing higglety pigglety, their ranks having been broken by the professor's table, and their heads looking in all directions, as if thrown together by chance. Over the professor's " devoted head " is seen suspended a portion of inflated and injected intestine, with its mesenteric expansion dangling in the air, something like a lure for flies; whilst all around the room, and especially in the corners, are heaped together vast quantities of diseased bones, and other preparations, seemingly without order, and without arrangement. Here we see no numbered specimens—no classification of morbid anatomy—no description book—all of which would tend to give the collection a *pretty effect*. Yet the lecturer has not only sufficient, but abundance for his purpose; his table is always covered with choice preparations. " Of that portion of the house " which is set apart for the audience, the best thing I can say is, that whenever I have dropped in, I have always found it *remarkably well filled*. It is fitted up with rough deal planks, set upon as rough props, the seats rising tier above tier, until your head touches the top of a very *dark coloured* ceiling. Of my friend, the professor himself, I may be allowed to say, without suspicion of flattery, that he appears to understand his subject perfectly; and although he may not possess that powerful elocution, that smooth, flowing, persuasive strain of eloquence, which carries everything before it like a resistless stream, yet he is by no means deficient in the power of communicating his thoughts to others. Mr. Dick is still a young man; and as a lecturer, every year he is improving. His anatomical demonstrations, I may remark, are particularly clear, instructive, and satisfactory; and he seems to spare no pains in " well-grounding " his pupils in this, perhaps of all others the most necessary part of elementary knowledge. At the end of every course he subjects his class to a public examination. Here, at least, there is no hole and corner work—no secret tribunal; we have an open court, where all is straightforward, fair, and above board. The professor seems to solicit enquiry. He assembles a kind of committee of what may be called some of the notables of Edinburgh—some of the noted medical men; and invites the members of the Highland Society and others to be present. This year he also solicited the attendance of all the veterinary surgeons in the neighbourhood, and requested them to examine; amongst the rest, myself. I could only be present the first day; but I must say that the young men brought forward on that occasion acquitted themselves generally in a very satisfactory manner; I think highly creditable to the school.

At this examination I was very much gratified by seeing Mr. Ferguson of Woodhill presiding; one of the members of the Highland Society, and one of the warmest and most zealous friends that veterinary medicine has met with in Scotland; himself a man of almost universal information, he is at once the ornament of the agriculture of his country, and the most active promoter of every kind of *useful knowledge*. One warm advocate and patron like this is worth a whole *lane-full* of lukewarm friends.

(To be Continued.)

" Mr. Eustace Montgomery reached London a few days ago from East Africa in order to attend the International Veterinary Congress and to take up his duties as Adviser on Animal Health to the Secretary of State for the Colonies. Mr. Montgomery's work is so well-known to East Africans that they will welcome his appointment to the Colonial General Staff which Mr. Amery and Mr. Ormsby-Gore were at pains to establish while they were at the Colonial Office. After serving at Kabete for a number of years as Veterinary Pathologist, Mr. Montgomery became Veterinary Adviser to the Governments of Kenya, Uganda, Tanganyika and Zanzibar. A couple of years ago, upon his retirement from the service, he organised Meat Rations, Ltd., at Mwanza, for the curing and canning of native stock. That industry has already justified itself."—*East Africa*.

Notes and News.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Aug. 18th.—Meeting of the Editorial Committee, N.V.M.A., 4.30 p.m.; 2, Verulam Buildings, Gray's Inn.

Our New President.

Every member of the Association will be delighted to learn that, at the Annual General Meeting of the N.V.M.A., held at the Central Hall, Westminster, on Saturday, August 9th, Professor James Macqueen, F.R.C.V.S., was elected President, in succession to Mr. G. P. Male, M.R.C.V.S., of Reading. A full report of the proceedings will appear in an early issue, but another important announcement brooks no delay, namely, that of the election of Captain W. G. Wragg, M.R.C.V.S., Chief Superintending Inspector, Diseases of Animals Division, Ministry of Agriculture, as the Association's Honorary Treasurer, in the place of Mr. E. Alfred West, F.R.C.V.S. While sincerely congratulating the Association on securing the services of Captain Wragg in this capacity, we profoundly regret that Mr. West has found it necessary, for reasons of health, to relinquish a post which he has filled with untiring zeal and with outstanding ability for many years.

A further item of special interest at the meeting was the decision to hold next year's Annual General Meeting and Congress of the Association at Norwich.

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Illnesses of Mr. H. J. Dawes and Mr. Trevor F. Spencer.

The absence from the meeting of the Honorary Secretary (Mr. H. J. Dawes, F.R.C.V.S., of West Bromwich) was noted with a concern which deepened when it was learned that he had to return home through illness, which, we regret to say, has developed into a serious attack of bronchitis.

We have also to record, with much regret, that Mr. Trevor F. Spencer, M.R.C.V.S., of Kettering, is lying seriously ill with pneumonia. Latest advices inform us that both gentlemen are progressing favourably, and we are expressing the earnest hope of the whole profession when we say that we trust that their complete restoration to health will not be long delayed.

. . . .

Motor Car Insurance.

It has come to our knowledge that the Association is indebted to Mr. Jack Willett, M.R.C.V.S., of Harley Street, W., for the very satisfactory motor car insurance arrangements which have

been placed at the disposal of members of the profession by the General Accident, Fire and Life Assurance Corporation, Ltd., Perth, and which were notified by the General Manager of that Company in a letter published in our last issue. In this connection, we regret that the writer's name, Mr. S. Norie-Miller, was incorrectly reproduced.

Our members will share our gratitude to Mr. Willett for the very considerable trouble to which he went to make these representations to the company in question in this matter, and will congratulate him upon the success of his efforts.

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More than Welcome Visitors.

Busily engaged at the Central Hall, Westminster, as we were during International Congress Week, it was a delight to us to have a call at our editorial office in Gray's Inn, from our distinguished confrères in veterinary journalism, Dr. Delavin M. Campbell, Editor, and Dr. Albert T. Kinsley, Associate Editor, of *Veterinary Medicine*, the Chicago monthly which provides such a wealth of clinical material for veterinarians in the States.

The pleasing outcome of a most interesting hour of comparison and exchange of views was the readily-given assurance of both our friends that *Record* readers may look forward to perusing Dr. Campbell's impressions of his visit and, from Dr. Kinsley, a series of articles on the diseases of swine, on which he is an authority of international repute.

Obituary.

The Late Captain J. T. Ainslie Walker, r.a.m.c., t.f.

Members of the veterinary profession will hear with profound regret of the sudden death of Captain J. T. Ainslie Walker, well known as the joint author of the Rideal-Walker Co-efficient Test for Antiseptics, a means of standardisation which has obtained a world-wide recognition, and later as the inventor of the intestinal antiseptic "Dimol."

Educated at Watson's College, Edinburgh, he studied chemistry and bacteriology at Edinburgh University, graduating as F.C.S. and F.I.C.

He was elected F.R.S.M. and was, up to the time of his death, Corresponding Member of the Societé de Médecine de Paris.

Joining the R.A.M.C. in 1917 he became O.C., Mobile Laboratories (Chemical and Bacteriological) and O.C., Sanitary Sections for the Fifth Army, retiring in 1918 with the rank of Captain, R.A.M.C., T.F.

Ainslie Walker commenced experimental work in antiseptic research in 1904 and had always in view the discovery of an internal antiseptic of high potency which should be absolutely non-toxic.

His life's work was rewarded by the discovery of the benzene derivative now so widely known as "Dimol."

Referring to this product, *The New York Medical Journal and Medical Record*, in its issue of April 18th, says :—

"Thanks to the long and patient research work of Ainslie Walker intestinal disinfection is now an established fact."—"The significance of this addition to our therapeutic resources suggests the beginning of a new era in the treatment of disease."

At the time of his death Ainslie Walker was actively engaged in research work, in collaboration with our leading gynæcologists, with reference to the control of maternal mortality by the elimination of toxins from the bowel by the ante-natal administration of "Dimol," which he believed would exert a very profound effect upon the incidence of puerperal fever.

Very thorough in all his research work, an indefatigable worker and a genial host and companion, Ainslie Walker will be missed and mourned amongst a wide circle in the medical, veterinary and pharmaceutical world.

Mr. John James Tainsh, m.r.c.v.s., Grimsby.

"Many people in Grimsby will learn with deep regret of the death of Mr. John James Tainsh, m.r.c.v.s., of 'Ivydale,' Abbey Road, which occurred on Wednesday, at the age of 64," says *The Grimsby News* of August 8th. For some considerable time he had not enjoyed good health, so that his passing was not entirely unexpected. He leaves a widow, a son and daughter. The daughter is married and the son is specialising in Radiology, and is at present in Edinburgh.

"Born near Perth, Mr. Tainsh qualified as m.r.c.v.s at the Dick Veterinary College, Edinburgh in the year 1891, and was in practice for some time in Campbeltown, Argyllshire, where he met and married the lady who is now his widow. The year after his marriage he bought the practice of the late Mr. Field, in Wellowgate, and it was in 1898 that he came to Grimsby to build up the practice which is now so well known and which has been taken over by Mr. W. S. Cartwright.

"Mr. Tainsh took no part in public life, but he was at one time a prominent Freemason. He had passed the chair of the Smyth Lodge, was a member of the Oliver Chapter, and had held provincial office."

Personal.

Engagement.—The engagement is announced of John Dickinson Peele, eldest son of Major and Mrs. Harry Peele, of Springfield, Durham, to Monica Ropner Sadler, youngest daughter of Mr. and Mrs. Cecil Sadler, of Oswald House, Durham.

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Will.—Hartley, Major Charles, f.r.c.v.s., of Friars Lane, Lincoln, son of the late Charles Hartley, f.r.c.v.s. (net personalty, £7,184), £13,194.

XUM

Army Veterinary Service.

London Gazette—War Office—Territorial Army.

August 12th.—Major R. Finch, M.C., T.D., F.R.C.V.S., having attained the age limit retires and retains his rank, with permission to wear the prescribed uniform (August 13th.)

Vaccination Against Tuberculosis.

Mr. E. A. Watson, chief pathologist to the Animal Diseases Research Institute, Department of Agriculture, Quebec, who at the International Veterinary Congress on August 6th dealt with the subject of vaccination against tuberculosis—reported elsewhere in this issue and in other papers of August 7th—writes to *The Times* to make it clear that his studies have led to an opinion against the claims made for the Calmette-Guerin method of vaccination as an efficient means of protection against bovine tuberculosis. Through an error, Mr. Watson was reported as endorsing the claims of B.C.G. vaccination. Mr. Watson writes that, as the question is one of much dispute and controversy, he wishes his own view to be clearly set forth in opposition.

Speed Test for Polo-bred Ponies.

A correspondent writes to *The Times*: "The Polo Turf Club have made a new departure in their programme which can scarcely fail to be far-reaching in its effects. For their September meeting at Portsmouth they have provided two races of three-quarter mile and one mile respectively for polo ponies—*i.e.*, for ponies already registered or accepted for registration in the National Pony Society's Stud Book or approved registers. This step must have a marked effect on the breeding of ponies and, indeed, of light horses in general, for with the height limit of 15 hands the improvement of the speed and stamina of the polo pony should have a beneficial influence on all light horse breeding.

"Hitherto there has been no speed test for polo-bred ponies; the only test has been the game. This new test, however, cannot fail to establish a higher standard among polo ponies, and the new races should be well patronised. It has been pointed out that the National Pony Stud Book is now on the way to occupy the same position with regard to polo that the General Stud Book is in with regard to racing, and we may look forward with interest to important developments."

Tuberculosis Congress in Oslo.

In the presence of the King and Queen, the Crown Prince and Princess, and an audience of several hundred medical representatives from all parts of the world, the Seventh International Tuberculosis Congress opened in the University Hall, on August 12th. Professor Frölich, of the University of Oslo, delivered the opening address in French, and, after outlining the agenda of the Congress, said that the most burning question on it was that of vaccination against tuberculosis with Professor Calmette's lymph.

There was a large attendance of French, Germans, Italians, and Americans. The principal British delegates are Sir Robert Philip, from Edinburgh, and Miss Edith McGaw and Colonel Nathan Raw, from London.

A lady's small green handbag, containing a few coins, was found at the International Veterinary Congress Exhibition on the Monday, remaining unclaimed throughout the week. The owner can obtain the bag on applying to 10, Red Lion Square, W.C.1.

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

"The Control and Eradication of Contagious Abortion."

To the Editor of the Veterinary Record.

Sir,—Whilst Mr. Perkin's paper on "The Control and Eradication of Contagious Abortion" will be read with general interest, the essayist's emphatic assertion that "the only vaccine which is of service is a live vaccine" will receive anything but general acceptance.

One point which the advocates of this line of treatment seem to overlook, apart from the danger of resultant sterility, a by no means negligible risk, is its failure to offer any sort of protection to the small herd or its owner.

In the small herd, often a very select group belonging to a private owner, the amount of available pasturage, buildings and labour is limited and segregation of animals treated by live vaccine practically impossible. Unless treatment by a killed vaccine is adopted the alternative method generally followed is the marketing of cows which have aborted, with its resultant spread of infection, and their replacement by newly-calved cows—unless the owner, in despair, gives up keeping dairy cattle altogether.

In the writer's hands the administration of a killed vaccine to all pregnant animals in an infected herd has given very gratifying results, although there have been occasional breaksdown.

In three small herds of five, seven and twelve milking cows respectively, abortion was controlled by this means for over two years and 100 per cent. of full-term, live calves were born. Unfortunately, then thinking the infection had died out, the owners abandoned the treatment, with the result that in each of these three herds the first pregnant cow left unprotected aborted. The practice was then resumed and since then, a period of six to eight months, there have been no abortions although several cows are in-calf and segregation is impossible owing to lack of space and labour. Agglutination tests have shown these cattle to be heavily infected.

Whilst it is not claimed that this evidence is conclusive, it does appear to controvert Mr. Perkins's statement.

In one herd this treatment proved a complete failure, but as cows which gave a negative reaction to the agglutination test were amongst the aborting animals other causes than the *B. abortus* were suspected, apparently correctly so, as a change in the animals' environment coincided with a cessation of the trouble.

Faithfully yours,
David Eric Wilkinson.

Oakwood,
Chigwell,
Essex.
August 9th, 1930.

The Editor acknowledges the receipt of the following:—

The Indian Farm Journal, Vol. I, No. 1.

Agricultural Journal, Fiji.

"The Dentition of the Pig." O. Charnock Bradley.

Annual Report of the Veterinary Department, Uganda Protectorate.

Annual Report of the Veterinary Department, City of Edinburgh.

Report of a meeting of the Dumfries and Galloway Division, N.V.M.A., from Mr. Francis A. Davidson, Hon. Secretary.

Report of a meeting of the North Wales Division, N.V.M.A., from Mr. Howel V. Hughes, Hon. Secretary.

Report of a meeting of the Eastern Counties Division, N.V.M.A., from Colonel W. A. Wood, Hon. Secretary.

Communications from Mr. W. E. Blackwell (Towcester), Dr. H. H. Curson (Onderstepoort, Pretoria, South Africa), Dr. F. C. Minett (London), Messrs. R. H. Smythe (Cawborne), R. S. Smythe (Harrogate), and Alex. Thomson (Glasgow).